

# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE,

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 517.—Vol. XV.]

LONDON: SATURDAY, JULY 19, 1845.

[PRICE 6D.]

**BROWNWILLY.—VALUABLE FREEHOLD AND OTHER PROPERTY.**—SITUATED in the most renowned MINING DISTRICT in the county of CORNWALL.—TO BE SOLD, BY PUBLIC AUCTION (free of Auction Duty), by Mr. COAD, at Oliver's Hotel, Bodmin, on Tuesday, the 5th day of August next, at Four o'clock in the afternoon, LOT I.

The fee-simple and inheritance of and in all that tenement known by the celebrated name of BROWNWILLY, situated in the parish of ST. BREWARD, otherwise Symonward, in the county of Cornwall, containing about 290a. 0a. 23r. of land, with an extensive right of common, now in the occupation of Philip Ham, as tenant at will. There is an annual profit payable to the proprietor of the above tenement, arising from the Trestle Works thereon, now in a prosperous state of working.

LOT II.

All that messuage, tenement, and premises, called FEARNACRE, adjoining Lot I, and also situated in the said parish of St. Breward, otherwise Symonward, containing about 63a. 1a. 24r. of land, now in the occupation of the said Philip Ham, as tenant at will. One moiety of this lot is held in fee-simple, and the other moiety for the remainder of a term of 999 years, of which 721 years are now unexpired.

The name of "BROWNWILLY" is the well-known name to render it necessary to enlarge on the position as one of the most prominent "Lions" of Cornwall; but it may be added, that, by reason of the recent extraordinary, grand, and lucrative discoveries in the mineral productions of the lands in this, the Eastern, part of the county, where the "Caradons," and other mines in their qualities and quantities of the various ores and metals are bearing away the palm from those of the Great "Treasure," and others in its neighbourhood in the west, where alone, until within the last four or five years, these hidden treasures were supposed to be found, this fine property (in which as yet no trial for those riches has been made, except for tin, of which considerable quantities have already been discovered and sold, but towards which all these neighbouring valuable mines, now in full operation, are driving and approaching) may be considered and fairly estimated as one of the most inviting, attractive, and precious, ever offered for competition, and well worth the attention of capitalists and speculators in mine adventures.

The above property is situated about twelve miles from Liskeard, twelve from Looe, twelve from Bodmin, and four from Camelford—all of these market towns of high repute, and rendered more so of late by the increasing populations congregated thither by the numerous additional roads springing up in their vicinity; and the various railroads from Exeter to Falmouth, with their branches, will afford every facility for a ready sale of the produce of this property, whether of agricultural or mineral production.

The respective tenants will show the premises, and for further particulars, application must be made (if by letter to be post-paid) to Messrs. Gibb, solicitors, Liskeard; or Messrs. J. and H. T. Spill, solicitors, Devonport.—Dated July 7, 1845.

**FREEHOLD COPPER ROLLING-MILLS, HAMMER-MILLS, FURNACES, REFINERY, FOUNDRY, and FACTORY,** with very valuable water-power, with a fall of about 5ft. 6in., on the River Wandie, in Garrett-lane, WANDSWORTH, SURREY, fully equal to between 70 and 80-horse power, all well enclosed, with a manager's dwelling-house, good garden, numerous workmen's cottages, with gardens, and several valuable parcels of meadow land, containing altogether nearly twenty acres, most eligible situated within one mile and a half of Wandsworth, in the county of Surrey, and about seven miles from London.—TO BE SOLD, BY PRIVATE CONTRACT, by Messrs. DRIVER, the above most valuable and desirable FREEHOLD PREMISES, exonerated from land tax, which are now, and have for nearly a century and a half been worked by the Governor and Company of Copper Miners in England.

The premises comprise a convenient small dwelling-house for a manager, with a most excellent garden; a building, about 90 feet by 70 feet, called the "Rolling-Mill," and a very capital iron water-wheel, 15 feet diameter by 14 feet in width; a hammer-mill, about 70 feet long, with two water-wheels, one 15 feet and the other 13 feet diameter; a new building, called the "Refinery," about 55 feet by 42 feet, with three furnaces; stabling, sundry workshops, and a counting-house; an Artesian well, 165 feet deep, with 5-inch copper pipes; twelve workmen's cottages, and sundry parcels of most desirable and valuable meadow land, containing altogether about twenty acres.

The purchaser may, or may not (as he pleases), take the machinery at a valuation, and in the event of his not taking it, the vendors reserve to themselves the power of selling the same by auction, or otherwise, as they may see proper.

To be viewed on application to Mr. DRIVER, residing on the premises; and further particulars may be had of Messrs. DRIVER, surveyors and land agents, 8, Richmond-terrace, Parliament-street, London.

**COPPER MINE FOR SALE.**—SITUATED in the island of CUBA, twenty miles from the port of Nuevitas.—Five shafts, from 50 to 90 feet, have been sunk on the lead, which has been thoroughly explored by mining capitalists for more than 200 feet east and west, and pronounced one of the richest mines in the whole island. The shafts of 400,000 worth of ore has already been taken out, but as the works must now be extended, more capital is required; and for this reason only one-half, or five-eighths, of this valuable property is OFFERED FOR SALE TO CAPITALISTS who will work it. A new engine, pumps, tools, and 100 acres woodland is attached to the mine, within 300 yards of which passes the Nuevitas and Principe Railroad.—Reference may be made to Messrs. Carne and Telf, of Liverpool; Geo. Dison, Esq., U.S.V. Consul, Nuevitas (Cuba); and Messrs. John Simmons and Son, Boston, U.S.

**LEAD MINE FOR SALE.—FOR SALE, BY PRIVATE CONTRACT,** with immediate possession, the CATHOLIC MINE, ENGINES, and MATERIALS of all kinds now standing upon it, at a very low price. The mine is held upon lease from the lords of Mold by the Mold Mines Company, and a sub-lease, upon liberal terms, will be granted of this mine and the ground about it. The water has been completely drained, and the mine is now open for inspection. A trial of deeper ground can be made for a moderate sum, and the adventure is worthy the attention of parties interested in mines. The pumping-engine is of great power, having a cylinder of 30 inches diameter and 10 feet stroke, and the pumpwork is of large size and great strength; there is also a winding-engine, having a 30-inch cylinder 4-ft. stroke, and is well adapted for work.—The whole may be seen, and all particulars learned, by applying to Mr. R. W. F. Royal Oak, Mold; Mr. Joel Williams or Captain Reed, Mold Mines, near Mold, Flintshire.

**IMPORTANT MINING PROPERTY IN CORNWALL.**—FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, in fee-simple, an undivided ONE-FOURTH PART of and in the surface of certain parts of the MANOR OF EAST CUSGARNE, in the parish of GWENAP, in the county of Cornwall, containing about 100 acres; one moiety of which is uninclosed, uncultivated, and the remaining parts are built up, and divided into forty-eight small tenements.

And also an undivided THREE-FOURTH PART, or THREE EIGHTHS IN FOUR, of and in the surface of certain other parts of the SAME MANOR, containing about forty-six acres, and divided into five tenements.

These tenements are several leased for terms of ninety-nine years, determinable on the deaths of certain persons therein respectively named; in which leases all minerals are reserved, with power to enter and to search for and remove the same, and are subject to the payment of certain yearly rent, and to a heriot on the death of each life.—The conventional rents payable in respect of the one-fourth and three-fourth parts respectively of the inclosed tenements amount to £12 5s. 7d. per annum.

Also an undivided ONE-FOURTH PART of and in all TIN, COPPER, and OTHER MINERALS, in and throughout the entire MANOR OF EAST CUSGARNE, comprising about 800 acres of land, and forming part of the celebrated mineral district of GWENAP, the most productive in the county of Cornwall.

This manor has been an early period, being supposed to possess great mineral treasures, and is now known to be intersected by valuable lodes of copper. Late Sir John St. Aubyn, Bart., Henry Prynn Andrew, Esq., the Messrs. Williams, and the representatives of the late Richard Oakley, Esq. There are now four mines in full operation within this manor—the well-known Consolidated Mines, the United Mines, Wheel Cliford, and Wheel Andrew—the sets or leases of which extend over about 600 acres, leaving about 100 acres ungranted.

The Consolidated Mines alone, between the years 1819 and 1839 (besides repaying a capital of £75,000, expended in setting them to work), yielded to the adventurers by whom they were wrought, a clear profit of about £400,000, and to the lords, within the like period, upwards of £75,000. These mines are now conducted by a wealthy and spirited company, under a sett for twenty-one years, of which about sixteen years are unexpired, and although the returns to the adventurers have not, within the last five years, been large, the lords have received within that period upwards of £12,000, clear of deductions, at the reasonable rates of 1-24th on the ore raised. The adventurers are now opening a much new ground, and actively extending their operations into land yet unwrought.—The limits of this sett within East Cusgarne are supposed to be about 250 acres, a considerable portion of which has been yet unexplored.

The United Mines, which extend over about 170 acres, are at this time realising large profits to the adventurers, and, of course, paying considerable dues to the lords, whilst the great extent, as well as favourable appearances, of the workings, hold out every prospect of increasing and long-continued returns. The present lease expires in 1856.—Wheel Cliford and Wheel Andrew are also now being wrought under setts for twenty-one years by most respectable companies.

Wheel Cliford has yielded an increasing amount of dues to the lords for three or four years past, having within the last year given nearly £200, and recent extensions of the workings have established the fact, that the productive lodes of the United Mines pass through this set, and, in continuation eastward, also through Wheel Andrew—the best assurance is thus afforded that both these mines will, at no distant period, return considerable profits.

On Wheel Andrew a large steam-engine has recently been erected, for the purpose of draining that mine and enabling the adventurers to prosecute their workings to a greater depth; and although only a few months have passed since its completion, decided success has attended their operations, and discoveries, promising the most important results, have already been effected.

This property presents to the capitalist an opportunity for investment rarely to be met with. It affords the certainty of considerable, and the probability of very large, returns, without the risk attending mining speculations, where the party stands in the character of an adventurer or shareholder; for, it must be borne in mind, that the "lord" is entitled to his share of all ores brought to the surface previous to the deduction of any expenses—receives his dues in cash every two months, and is not involved in any of the costs or expenses attending the prosecution of the mine, or in any of the liabilities incurred by the adventurers.

For further particulars apply to Thomas Curry, Esq., 3, Bond-court, Watford, London; to Messrs. Gregory, Fenner, and Co., 1, Bedford-row, London; or to Mr. George E. Marsden, solicitor, St. James's-square, Manchester; and to treat for the purchase to Messrs. Hodge and Hickin, solicitors, Truro, Cornwall.

Dated the 9th day of June, 1845.

**MONMOUTHSHIRE.—IMPORTANT to IRONMASTERS, COAL MERCHANTS, and CAPITALISTS.—TO BE SOLD, BY PRIVATE CONTRACT,** all that valuable ESTATE, called by the name of PEN Y TRANCE, situate in the parish of TREVEITHIN, in the county of Monmouth, and containing by admeasurement, 36a. 1a., chiefly arable and pasture land, with some coppice; together with a good farm-house and buildings, and two cottages thereon, producing the surface rent of £36.

This estate abounds in MINERALS, both IRON, STONE, and COAL, and there can be no doubt, from the result of the working of neighbouring properties, that the following veins will be found therein—viz., the Sops Vein, Black Pits Mine, New Vein Coal, Brodger Vein Coal, Red Vein Coal, Yard Vein Coal, Meadow Vein Coal, Stone Vein Coal, Yard Vein Mine, Meadow Vein Mine, Spotted Vein Mine, and the Bottom Vein Mine.

The property offers peculiar advantages, inasmuch as the veins may be worked either from the Cwm Nant Ddu or from the Cwm Glyn Valley, and can be brought to market at a cheap rate—the estate being distant only about 600 yards from the Cwm Nant Ddu Tramroad, which joins the canal at Pontnewydd Rolling-mill, and also within easy distance of the tramroad, leading from the bottom of Blaen y Cwm Incline Plane.

The estate is copyhold of the Manor of Wentland and Brynwyn.

For further particulars apply to Mr. William James, mineral surveyor, Trebant, Pontypool; or to Messrs. Prothero, Towgood, and Fox, solicitors, Newport.

**CAPITAL, EXTENSIVE, and VALUABLE SLATE QUARRY,** with immediate possession.—TO BE LET, OR SOLD, all that capital, extensive, and valuable QUARRY of SLATES, of the best quality, now open, and in work, called Eilwbach, together with the cottages and other offices attached thereto, situate in the parish of PENMACHNO, in the county of Carnarvon. The above quarry has been worked for about twenty years, and is situate within two miles only of the Festiniog Railway, along which is conveyed the slate from the neighbouring extensive quarries to Porthmadog; and, by a comparatively small outlay, a road might be made from the above quarry to the said railway. It is also situate about fourteen miles from Trebriquet, on the River Conway—an excellent shipping for vessels of large tonnage. The quarry is capable of being extensively and profitably worked by an experienced and spirited capitalist, who will find the above well worthy of his notice—terms liberal. Also a comfortable HOUSE, with an extensive FARM.—For further particulars apply (if by letter, post paid) to Mr. Mouladale, Gwynedd, Anglesey.

**FOR SALE, TWO HIGH-PRESSURE STEAM-ENGINES.**—1. A HIGH-PRESSURE PUMPING ENGINE, 26-inch cylinder, stroke 7-feet. 2. A HIGH-PRESSURE WINDING ENGINE, 26-inch cylinder, and stroke 5-feet.

These engines will be sold on advantageous terms.—Apply to Mr. Moore, Morrison's Haven, Prestonpans.

**STEAM-ENGINES, from 8 to 16-horse power, ALWAYS in STOCK.**—Apply to Mr. Copper, engineer and ironfounder, Birmingham.

Price.....£12 per horse.

N.B.—CASTINGS and PIT WORK MADE TO ORDER.

**ASSAYING and MINERAL ANALYSIS.—IMPORTANT to the PROPRIETORS and SHAREHOLDERS of MINES, &c.**—Messrs. MITCHELL and FIELDS'S LABORATORY is OPEN to GENTLEMEN for INSTRUCTION in all BRANCHES of ASSAYING, MINERAL ANALYSIS, and GENERAL CHEMISTRY; ASSAYS and ANALYSES conducted as usual.—For terms address to Messrs. Mitchell and Field, assayers, &c., 5, A, Hawley-road, Kentish-town, London.

**ASSAYING.—SITUATION WANTED, by a PRACTICAL ASSAYER,** who has for many years been solely engaged in Cornwall in assaying copper, lead, silver, iron, &c. The advertiser would take a situation either at home or abroad. Most respectable testimonials may be produced by applying to Mr. Thomas Pearce, Post-office, Bodmin.

**CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.**—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this association will be HELD at the office of the company, No. 26, Austinfriars, on Monday, the 31st of July inst., at One o'clock precisely.

By order of the court of directors, WM. LECKIE, Secretary.

**COPIAPO MINING COMPANY.**—Notice is hereby given, that the GENERAL MEETING of shareholders will be HELD at the company's office, 22, Austinfriars, on Wednesday, the 30th inst., at One o'clock precisely, for the purpose of receiving the report of the directors for the past half-year. At which an Esq., and Mr. C. Heaton Ellis, Esq., directors, and Robert Skinner, Esq., auditor, who go out of office by rotation—being eligible, offer themselves for re-election.

This meeting is made special, for the consideration of the expediency of raising additional capital for a vigorous prosecution of the company's operations, according to the intimation given to the shareholders at the last half-yearly meeting.

By order of the directors, FRED. GRELLER, Secretary.

**TRELEIGH CONSOLIDATED MINING COMPANY.**—Notice is hereby given, that the directors of this company have this day made a CALL of FIVE SHILLINGS per share, PAYABLE on or before the 31st July next, at the London Joint-Stock Bank.

By order of the board, ROWLAND NICHOLSON, Secy.

**ANDALUSIAN MINING ASSOCIATION.**—Notice is hereby given, that NO APPLICATION for SHARES in this company will be received after MONDAY, the 21st inst., as the directors will proceed to allot the shares immediately after that day.

By order, J. T. WRIGHT, Secretary.

**THE PATENT SAFETY FUSE.**—FOR BLASTING ROCKS IN MINES, QUARRIES, and FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and MOST EXPEDIENT MODE of effecting this very hazardous operation. From many testimonials to its usefulness with which the manufacturers have been favoured from every part of the Kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentes, BICKFORD, SMITH, and DAVEY, of Exeter, Cornwall.

**TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, and OTHERS REQUIRING FINE GREASE for MACHINERY and AXLES of every description.**—JOSEPH PERCIVAL'S IMPROVED ANTI-FRICTION GREASE is—after trials on machinery and axles of every kind where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public.

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples forwarded on application at the manufactory, Green-street, Wellington-street, Blackfriars-road, London.

**PATENT GALVANISED IRON COMPANY.**—PATTERSON and OTHERS v. HOLLAND, MOREWOOD, and OTHERS.

In the Court of Common Pleas, on the 9th inst., the argument for the new trial came to a hearing, when the Court recommended the question to stand over, until the writ of *scire facias* sued out by Messrs. Morewood and Rogers had been brought to trial (which, unfortunately, cannot take place before December). Trial by *scire facias* is the proper mode of testing the validity of a patent, and should have been resorted to by Messrs. Morewood and Rogers, and Walker and Co., instead of invading Crauford's patent, thereby saving themselves and their customers from a heavy responsibility, as the patent remains in full force, and all parties are hereby CAUTIONED against incurring the heavy penalties recoverable for infringing the said patent for coating iron with zinc to prevent oxidation. No doubt is entertained of fully substantiating this, one of the best and most important patents ever enrolled, and proceedings will be taken against all parties who invade it. The Jury, in the case "Patterson and Others v. Holland, Morewood, and Rogers," tried in February last, decided all the issues in favour of the patent, except one upon the specification, upon which point the evidence at the future trial will correct the misconception which arose upon that issue.

3, Mansion-house-place, London, June 13, 1845.

**BY HER MAJESTY'S ROYAL LETTERS PATENT.** SMART'S ELLIPTICAL CONVEX METALLIC FLOATS, FOR PROPPELLING STEAM-SHIPS.—The very great superiority of this invention over the common float, in all points, having been fully proved by the application to various steamers of from 90 to upwards of 300-horse power—the patentee is enabled, with the greatest confidence, to recommend it to the Government and the public generally, and will immediately attend to all applications for license at his residence, No. 5, Grenville-place, Hotwells, Bristol.—June 19, 1845.

Personal attendance to the fitting (if required), on travelling expenses being paid.

**OFFICE FOR PATENTS, 7, STAPLE INN, HOLBORN.** J. MURDOCH (successor and late assistant to Mr. Hebert) informs INVENTORS and PATENTERS, that at his OFFICE they can obtain

REFERENCE TO A CLASSIFIED LIST OF PATENTS.

THE ONLY ONE EXTANT, which shows at one view all the Patents ever granted for any particular object, whereby they may save much trouble and expense, and procure information not otherwise obtainable. BRITISH and FOREIGN PATENTS OBTAINED, and SPECIFICATIONS carefully prepared, and REPORTS of ENROLLED SPECIFICATIONS furnished on moderate terms.

FINISHED and WORKING DRAWINGS executed with accuracy and despatch.

**RYE AND THOMAS, MINE AGENTS and DEALERS** IN STOCKS, RAILWAY and OTHER SHARES, 80, OLD BROAD-STREET, LONDON.

**MINING and RAILWAY OFFICES, 16, CORNHILL.**—Mr. RICHARD TREDINNICK having entered into arrangements with PRACTICAL AGENTS and ENGINEERS resident in the several MINING DISTRICTS, whereby he is enabled to obtain the earliest and most accurate information affecting MINING and RAILWAY undertakings, proffers his services to the capitalist and adventurer in MINES and RAILWAYS, in the PURCHASE or DISPOSAL of SHARES, as also obtaining REPORTS or STATEMENTS with reference thereto.—Reference as to ability and the facilities possessed by Mr. Tredinnick will be readily afforded; and the strictest confidence preserved respecting all communications.

**MINING SHARES FOR SALE, in the TAVISTOCK and CALLINGTON DISTRICTS.**—Mr. F. VIGORS, of Plymouth, begs to inform Capitalists and Adventurers, that he has several SHARES in some valuable COPPER, LEAD, and TIN MINES, which, during a short stay in London, he will be glad to DISPOSE OF, on moderate terms; they embrace some very important sets, which have commenced operations under efficient companies—viz., Great Wheel Williams, Devon and Courtney Consols, East Crowndale, Trevelarney Consols, Harrowbarrow Old Mine and Consols, &c., and a favourite Tin Mine on Dartmoor.

Further particulars, of which Mr. V. will be happy to furnish any gentleman who will address him a note, by post, at Mr. Warren's, 7, Wilson-street, Finsbury.

**UNRESERVED SALE OF MINE SHARES.**—TO BE SOLD, BY AUCTION, by GEORGE CARNE, at the Mart, Bedford-street, Plymouth, on TUESDAY, 22d July inst., at Six o'clock in the evening precisely, SHARES in various MINES and PUBLIC COMPANIES, viz.:

1 256 East Birch Tor 20 256 Wheel Broadbridge

2 256 Caradon Wheel Hooper 20 256 Wheel Susan

3 256 Coombe Down 10 256 Wheel Concord

4 256 East Tol Carne 13 1000 Harrowbarrow Old Mine

5 256 North Tolgar 3 256 Caradon Vale

6 256 West Wheel Maria 4 256 Wheel Mexico

7 309 North Wheel Maria 4 256 Wheel Concord

8 309 North Wheel Maria 4 256 Wheel Mexico

9 309 North Wheel Maria 4 256 Wheel Concord

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**THE PROJECTED RAILWAYS.—ANALYSIS of the**  
**PATENT METALLIC SAND, or ENGLISH POZZOLANO, used in the foundations**  
 of the New Houses of Parliament, the great tunnels on the Birmingham Railway, seawall on the Great Western Railway, in Devonshire, and other important works, referred to more particularly in the prospectus:  
 Silica ..... 49  
 Oxide of iron ..... 33  
 Alumina ..... 6  
 Lime ..... 6  
 Magnesia ..... 2  
 Zinc ..... 2  
 Arsenic and carbonate of copper 2  
 Used as an external Stucco, the Metallic Sand Cement is cheaper than Roman Cement—unaffected by frost or wet—in appearance resembles the best Portland stone—requires neither colour nor paint—and is entirely free from vegetative cracks and blisters, to which Roman Cement is liable.  
 Price in Swans, free on board ..... 6d. per bushel;  
 Or supplied in London at ..... 1s. per bushel.  
 Further particulars, on application to Mr. C. K. Dyer, 4, New Broad-street, London or at the Metallic Sand Wharf, opposite Pratt-street, King's-road, Camden New Town.

## HARVEY AND WEST'S PATENT VALVES, APPLICABLE TO PUMPS OF EVERY DESCRIPTION.

The superiority of these valves, as economical in respect both of trouble and expense, has been proved, by the experience of their GENERAL USE for more than SEVEN YEARS.

The patentees refer to nearly all the water-works, engineers in the kingdom, by whom satisfactory testimonials have been freely given.

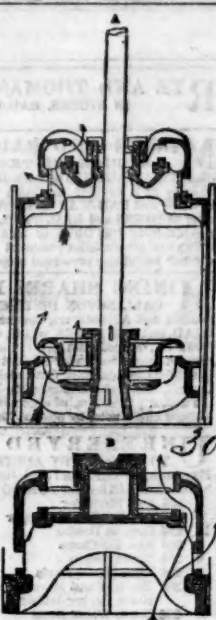
The principle adopted is that of "OBTAINING THE GREATEST WATER PASSAGE BY THE LEAST POSSIBLE PRESSURE AREA," thereby avoiding the great concussion occasioned by the closing of ordinary valves, and the loss caused by letting in air under them.

Until the invention of these valves (first used at the East London Water-Works), the most economical mode of raising water—viz., by the plunger-pump, and the principle of expansive steam, as practised in Cornwall, was impracticable for water-works purposes.

Sketch A shows the manner in which the valves have been applied to air-pumps of steam-engines. Sketch B, the manner of their application to pumps for lifting water.

The Valves are shown open in both Sketches.

Address Messrs. HARVEY and WEST,  
 HAYLE FOUNDRY, CORNWALL.  
 PRINCIPAL MANUFACTURERS.  
 Messrs. HARVEY and CO.,  
 HAYLE FOUNDRY, CORNWALL.



**TO ENGINEERS, RAILWAY CONTRACTORS, &c.—The**  
**PATENT RIVET COMPANY OF SCOTLAND, 25, BROWN STREET, Glasgow,**  
 MANUFACTURE (under the superintendence of the acting partner, Mr. Alexander G. Gilson) all descriptions of BOILER and TANK RIVETS, WOOD SCREWS, SCREW BOLTS and NUTS, RAILWAY SPIKES, &c.  
 Orders executed with dispatch, and forwarded to all parts of the United Kingdom.

**SIR W. BURNETT'S PATENT—THE CHEAPEST AND**  
**BEST PROCESS for the PRESERVATION of TIMBER, CANVAS, CORDAGE,**  
**COTTON, WOOLLEN, &c.—LICENSES GRANTED to NOBLES and GENTLEMEN**  
 to use the preparation; and to others, for the purposes of trade, on advantageous terms.  
**HYDRAULIC APPARATUS and TANKS,**  
 for the expeditious preparation of the above materials, at the principal station, MILLWALL, POPLAR, nearly opposite Greenwich.  
 Numerous SPECIMENS and TESTIMONIALS may be seen, and every information obtained, at the office, 53, King William street, London-bridge.

**PATENT IMPROVEMENTS in CHRONOMETERS.**  
 WATCHES, and CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street which and clock maker, BY APPOINTMENT to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 g. each; in gold cases, 3 g. each; £10 extra. Gold horizontal watches, with gold dials, from 5 g. to 12 g. each. DENT'S PATENT DIAPHRAGM, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

**ARGUS LIFE ASSURANCE COMPANY.**  
 39, TIERO MORTON-STREET, BANK.

Empowered by Special Act of Parliament, 5 and 6 William IV., cap. 76.

THOMAS FARNCOMB, Esq., Alderman, Chairman.

WILLIAM LEAF, Esq., Deputy-Chairman.

Consulting Actuary—Professor Hall, M.A., of King's College.

### LOW RATES OF PREMIUMS.

In addition to the subscribed capital of £300,000, the assured have the security of the company's income of £50,000 per annum, yearly increasing, and an accumulating assurance fund, invested in Government and other available securities, of considerably larger amount than the estimated liabilities of the company.

Age.	For One Year.	For Seven Years.	Whole Term.
20	£0 17 8	£0 19 1	£1 11 10
30	1 18 0	1 9 7	2 0 7
40	1 5 0	1 6 9	2 14 10
50	1 14 1	1 19 10	4 0 11
60	3 2 4	3 17 0	6 0 10

One third of the Whole Term premium may remain unpaid at 5 per cent. comp. int., as a debt upon the policy for life, or may be paid off at any time without notice. The medical officers attend daily at a quarter before Two o'clock.

EDWARD BATES, Resident Director.  
 A liberal commission to solicitors and agents.

**GREAT BRITAIN MUTUAL LIFE ASSURANCE.**  
 14, WATERLOO-PLACE, PALL-MALL, LONDON.  
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## Proceedings of Public Companies.

### ALLEN MINING ASSOCIATION.

A special general meeting of the proprietors in this company was held at the offices, Winchester-house, Old Broad-street, yesterday, to take into consideration the present position of the company.

Mr. LABOURETTE in the chair.

Mr. COLE (the secretary) having read the advertisement convening the meeting, and the minutes of the former meeting which were confirmed, read the following reports from the directors and Mr. Thomas, the agent at Allen:

#### DIRECTORS' REPORT.

We have again to call you together to give an account of another year of disappointed hopes and baffled expectations. When we last had the honour of addressing you, we had every reason to believe—from the then state of various old workings, and, in particular, from the new discovery—that some profit would be made on the current year; as, however, the season advanced, we found that this could not be the case, and that loss was inevitable, which the accounts now laid upon the table show to be 7077.7s. 10d. still, however, continued so good, and, judging from the estimates, that the produce at least equalled the expenditure, we considered ourselves, in the month of October, justified in relaxing the rigour of our former instructions, and authorising our manager to lay out 100l. per month in opening ground, and making further explorations; very soon after this, we perceived a most material falling off in the returns, and, in the month of April, we became so seriously alarmed, that we gave instant orders to make a sweeping reduction in our establishment, directing the manager to hold himself prepared to break it up, or to work it on a scale suited to our very limited disposable capital. When we inform you that, from October last, the concern has been carried on at a rate of loss equal to 3000l. per annum, you will allow that it was high time to take a decisive step. Subsequent accounts have fully confirmed the prudence of our course.

We were not without hopes that we might have been able to work the Ralspas Mine alone, which, in the worst of times, has always yielded a profit; but this mine has also experienced a great falling off in the quality of the ore, and the reserves even there, we are now informed, are inconsiderable, so that nothing remains to the present directors but to wind up the association at as early a period as possible, which we calculate can hardly be before the end of the summer of 1845. This will give a fair time to dispose of the concern, should any parties, either amongst the present shareholders or elsewhere, be found willing to make the purchase; or, it has been suggested to us, that a certain number of new shares might be created, which could be disposed of to such of the shareholders as still entertain a favourable opinion of the mine, and would suggest, that such persons form themselves into a committee, in order to discuss the best method of carrying out a new scheme, either for purchasing those shareholders who are unwilling to go on, or for issuing new shares. We own that the board, as a body, shrink from recommending any particular course. We should merely say, that our opinion is, that a capital of 25,000l., of which 15,000l., to be raised immediately, is the least amount required to resume operations with any prospects of success, and that a period of three years must elapse before the mine could be expected to yield any considerable permanent profit. We have only further to add on this subject:

1. That the lodes, in few instances, are worked to any depth—Ralspas, which has produced a very large quantity of ore, not being above thirty fathoms in depth.
2. That there are various lodes which have not yet been explored at all.
3. That the smelting is now effected at a very moderate cost—say, £1 13s. per ton.
4. That the rate of wages has been reduced 30 per cent. since 1836, and that there is a better chance of success at a colliery, than at a comparatively moderate profit would give any new body of proprietors purchasing the mine a handsome dividend, and also that Mr. Thomas, who has now returned to Allen, and had great experience both at our mine and at others in Norway, and whose abilities are unquestioned, is still most sanguine as to a favourable result, if the mines are only carried on with spirit and system—and we think it well to read his last report.

Finally, we have to inform you, that, in order to diminish the London expenses, Mr. Pike and Mr. Murray have very handsomely agreed to retire from the direction—Mr. Pike from October last, and Mr. Murray from the present time.

#### AGENT'S REPORT.

Allen Copper-Works, May 21.—Your esteemed favours of the 18th March and 11th ult. reached me with the last post: I have since made the estimates alluded to, and now avail myself of the earliest opportunity to forward them to you. With respect to the recovery of ore at Ralspas, they are evidently very trifling; and, as I have before stated, confined almost entirely to the gossan lodes, from which, as will be perceived by the low per centages of both the estimates and returns, the greater part of the present produce is obtained. By reference to the accounts for the last twenty months, it will be seen, that, for the year ending 31st Sept., 1844, 136 men were employed on stopping to 1 on levels and shafts; but, the latter, instead of exploratory work, were merely forming communications with other places for out shafts, and where the ore had been exposed, and worked out; therefore, those workings could only be serviceable for ventilating and draining the part of the mine. Subsequent to last September, and during the present year, the stopes in shaft No. 1—from which the principal part of the produce of this mine has, latterly, been derived—began to deteriorate, the ore became more disseminated throughout the matrix, and the ore part of the lode more confined; in order, therefore, to keep up the supplies of ore, it was found necessary to increase the number of men on stopping, and diminish the number on driving; consequently, from the 1st of October, has been 235 of the former to 1 of the latter. During this period, however, the levels must be considered as entirely exploratory—having been worked on the course of the lode, and the large bunches of gossan, on which our principal workings are now carried on, were thereby discovered. Notwithstanding the great discrepancy in the actual returns compared with the preceding years, and which is attributable to the deterioration of the old lode, and irregular bunches of ore in shaft No. 1, still, I consider, the prospects nearly, if not equally, as good as at any former time; and the bunches of gossan in the shallow levels, containing rich purple and black lodes, and the produce of which will be very considerable, and by assay found to contain 52 per cent. of copper—hold out the most flattering indications in the deeper workings, which are now slowly advancing towards the west. For the purpose of enabling you, if possible, to gain time to remodel the whole establishment, and avert the ruin that is now staring us in the face, I have carefully gone through the accounts, and cost of the works; from which, together with the present prospects of the several lodes, I am enabled to lay before you the enclosed estimate for their further prosecution for about twelve months, and the produce that may be expected therefrom, on a reduced scale of operations. You will observe that I have made no allusion to exploratory workings, reserving these for a future time when something more decisive is known as to the fate of the works. For one year longer it appears very possible to carry them on, as pointed out in the estimate; but, without assistance from other quarters, or the discovery of some new bunches of ore, I fear it will be impossible to do so after that time, without incurring a heavy loss. If the improvement that has lately taken place at Mansour's contract, and the fact that I see on my way down on the branch of the railway to produce the 500 tons of ore estimated on the Kauford Mines, without the least difficulty. Notwithstanding the apparent poverty of Wilson's lode at the present time, I feel sanguine of a successful result, if sufficient time and money be allowed to complete the workings proposed some time ago. In fact, I look on this mine as likely to form one of the principal branches of the establishment; and, if you recollect, when we passed over the same place of ground, some six or seven years ago, and when it was known by the name of Carl John's, I then expressed the same opinion to you. From the multiplicity of the lodes and bunches close to each other, as well as from those on the opposite side of the valley, together with their run, dip, and general favourable indications, I am led to form a most favourable opinion of their capabilities; and, judging from the sudden and peculiar manner in which the rich course of ore disappeared, and after examining the different strata, and observing their influence on the lodes, I can only conclude that the ore has been cut off by the large deposit of clay to the westward. The great obstacle to contend with in exploring this mine with levels and shafts is, the quantity of water continually ascending from the level, and the necessity of working the usual works, and the expense as expensive as they would otherwise be. The only alternative left us is, to take up a deep adit level from the present run of landers near the stable, from whence there would be about 100 fathoms to drive to intersect the present workings; but, in this distance we should certainly intersect two other lodes, and perhaps more. About 83000 would be required to fully explore this place; it might be done in about two years by forcing the operations with all shafts, and levels therefrom towards each other until communicated. Could I be permitted to gradually accept of this branch of the branch of the establishment, and pay my proportion of the expense, by being insured one-fourth part of the produce. The exploration of many other branches of the mining department, such as Mitchell's, Woodfall's, &c., will, I presume, during the present crisis, be useless to allude to, and must, therefore, be postponed to a more favourable opportunity, when time and circumstances will, I hope, admit of their being resumed. Although I am aware that, by alluding so frequently to the subject of suspending the smelting operations during the summer, I risk incurring your displeasure; still, I cannot desist from urging on you, for the last time, the necessity of adopting this proposition. I know that, for a time, such a step would put you to no inconsiderable inconvenience; but, the ultimate advantages that would be derived, and which have already been pointed out both publicly and privately, will, evidently, render full compensation for any temporary inconvenience that may arise from a delay in the first shipment of copper. Under every circumstance, you will know the exact state of affairs from the monthly deliveries of ore in the same manner, and as accurate as at present; and, I feel confident that the smelting charges on a smaller scale, and the necessity of suspending the usual works, will be of great advantage to the establishment for a limited period, hoping in this that some steps have been taken to give the works another trial—at least for one year—in the hope of something turning up to remunerate the shareholders for the heavy loss they have already sustained.

S. H. THOMAS.

After a few remarks from the Chairman and Mr. Woodfall, Mr. POTTER said, he felt very strongly that they had from the commencement been proceeding wrong; they had never worked the mine with spirit, had been always cramped for resources, and had paid dividends when they ought to have husbanded their means, and laid out their capital in opening additional ground. He still believed the property was in a good mining district, and that either by them, or a company more fortunate, who might succeed them, the mine would turn out a good thing; it would be a suicidal act to abandon it and under present circumstances, and he, for one, would subscribe to raise additional capital.

The CHAIRMAN asked Mr. Woodfall what his own opinion was upon the subject?—Mr. WOODFALL said, that although he perfectly agreed with everything in Mr. Thomas's report, still, after having for sixteen years watched the fluctuations and disappointments to which they had been subjected, he could not now be very sanguine.—A PROPRIETOR observed, that but little of their capital had been employed in really working the mine; 70,000l. had been paid up, of which 30,000l. had been paid to Messrs. Ward for the mine; 10,000l. for machinery; 20,000l. in dividends; and only 10,000l. had thus been applied to the opening of the mine.—A resolution had been prepared, giving the directors power to take the necessary steps for breaking up the company, but, after some observations from Messrs. Moccatta, Hill, Carr, &c., who recommended the formation of a committee to act in concert with the directors, for a dissolution of the company, and formation of a new one, it was agreed to adjourn sine die, the directors, in the meantime, to take advantage of any circumstances which may arise, and, when necessary, to call another special meeting.—A vote of thanks having been passed to the chairman and directors, for their attention to the best interests of the company, the meeting separated.—It was understood the adjournment would be for about three months.

### ST. KATHARINE DOCK COMPANY.

The half-yearly general meeting of the proprietors was held at the Dock-house, on Tuesday, the 15th instant, when the CHAIRMAN (T. Tooke, Esq.) stated, that the directors intended to propose a dividend of 2½ per cent. for the half-year, payable on and after Tuesday next, the 22nd inst., free of income tax—that the original capital was 1,852,800l., and the additional stock which had been authorised to be raised by conversion amounted to 50 per cent. of that amount (viz., 676,400l.), of which all had been subscribed excepting about 36,000l.—a circumstance of congratulation, and which showed the success of the measure of conversion to be perfect. There had been a considerable increase in the dock business for 1845—the quantity of goods landed was, in round numbers, in 1844, 44,000 tons; and in 1845, 56,000 tons—showing an increase in favour of 1845 of upwards of 12,000 tons; the returns, also, showed a great increase in the business of the port of London, of which they had had a considerable share. With respect to ship tonnage, it appeared that, during the first six months in 1845, it was 62,800 tons; 1844, 67,800 tons; and in 1845, 84,000 tons. The number of vessels which entered the port during the corresponding period in 1844 was 2053—while in 1845 they amounted to 2160; the whole increase in tonnage was 63,766 tons, of which the St. Katharine Docks had obtained 16,500 tons.

**Abstract of the returns of the quantity of merchandise landed and delivered in the St. Katharine Docks during the first six months in the years 1843, 1844, and 1845, and of the shipping and tonnage that entered the said docks during the corresponding period; also, of the ships and tonnage that entered the port of London with cargoes during the same period in 1844 and 1845:—**

	1843.	1844.	1845.
Landed in six months ..... Tons	43,675	44,000	56,580
Exceeding, in 1845, 12,481 tons.			
Delivered in six months ..... Tons	49,216	50,783	59,750
Exceeding, in 1845, 2241 tons.			
Total exceeding in the landings and deliveries, in 1845, 21,432 tons.			
Stock in warehouse ..... Tons	62,961	68,497	62,259
Less, in 1845, 338 tons.			
Entered the docks, with cargoes, during six months in 1843—247 ships ..... Tons	62,898	1844—289 ships ..... 67,895 tons.	
1845—300 ships ..... 84,432 tons.			
Increase, with cargoes, in 1845, 31 ships, 16,527 tons.			
Tonnage of ships entered light, to load outwards, in 1844, 15,032 tons; in 1845, 15,294 tons.			
Total—Ships 458, and registered tonnage, in 1845, 99,716 tons.			

#### PORT OF LONDON.

	1844.	1845.
Ships. Tons. Ships. Tons.		
British ships, with cargoes, first six months, from foreign parts ..... Tons	2,033,418,894	2,100,480,884
The like, under foreign flag ..... Tons	889,140,381	1,003,141,995
Total ..... Tons	2,942,559,175	3,163,622,881
Increase in 1845, ships 221; tons register, 63,706.		

The dividend at the rate of 5 per cent. per annum was then declared, and a vote of thanks unanimously by acclamation to the chairman, deputy chairman, and directors, to which the chairman replied.—On the conclusion of the business of the day, he stated, that the directors did not at present intend to exercise the power vested in them at the last meeting with respect to the 96,000l.; perhaps, it might be found expedient to make up the total fixed capital to 2,000,000l., which would only require about 66,000l. of the amount in question; there would be no further call this year, but one would be made in January next.—The meeting then separated.

### LONDON JOINT-STOCK BANK.

The sixteenth meeting of the proprietors in this bank was held in Princes-street, Bank of England, on Thursday last, the 17th instant.

WILLIAM MITCHELL, Esq., in the chair.

After the usual preliminary business, the SECRETARY read the report, which showed that the operations during the six months ending the 30th June had produced a net profit of 18,555l. 16s. 5d., after providing for the current expenses, proportion of building, bad debts, and rebate of interest on bills not due; this result enabled the directors to declare the usual dividend for the half-year at the rate of 6½ per cent. per annum (free from income tax), and the surplus profit being carried to the credit of the guarantee fund, in addition to the interest which had accrued thereon since the 1st of January last, the amount of that fund had been increased to 92,775l. 1s. 4d.

From the statement of liabilities and assets, it appeared that the paid-up capital is 600,000l.; amount due by bank, 2,449,557l. 17s. 1d.; guarantee fund, 92,219l. 4s. 11d.; to set against, there was in Exchequer Bills and India Bonds, 201,452l. 2s. 4d.; bills discounted, loans, and cash, 2,948,495l. 3s. 6d.; buildings and furniture, Princes-street and Pall-mall, 31,500l.—showing a balance in favour of assets, carried to profit and loss account, of 39,670l., which, after deducting all outgoings, and appropriating 18,000l. to the dividend, left a sum of 555l. 16s. 5d. to carry to the guarantee fund—making it as stated in the directors' report.—The report and accounts having been unanimously received and adopted, Capt. OWEN gave notice of a motion for establishing a fund for the purpose of providing the clerks of the establishment with an annuity in their declining years, or relief in cases of sickness; when, after some conversation as to the best mode of establishing such a fund, it was resolved to leave it in the hands of the directors, who will consider whether such a plan is advisable—if so, the best mode of carrying it out, and report thereon to the next half-yearly meeting in January next. A vote of thanks was then passed to the chairman and directors, and the meeting separated.

### MUTUAL ASSURANCE ASSOCIATION.

The half-yearly meeting of the assured in this society was held at the King's Head, in the Poultry, on Wednesday last.—S. W. ROWSELL, Esq., in the chair.

The SECRETARY having read the advertisement convening the meeting, the balance sheet for the half-year was read, and adopted unanimously.—A proposition being made for allowing an increase of remuneration to the directors, a long conversation ensued on the bearing of the subject of one of the bye-laws, requiring a half-year's previous notice of resignation, and taking such a subject into consideration, and it was at length determined to postpone it until the next meeting.—Messrs. Cohen, Cole, Stokes, Harling, and Rowsell (five directors who went out of office by rotation), were re-elected.—Mr. Rowsell was re-elected an auditor, and thanks having been voted to the chairman and directors, the meeting separated.

### LONDON, EDINBURGH, AND DUBLIN LIFE ASSURANCE COMPANY.

A general meeting of the proprietors in this company was held at the offices, Charlotte-row, Mansion-house, on Wednesday, the 9th inst.

R. SPOONER, Esq., in the chair.

The usual preliminary business having been gone through, the CHAIRMAN observed, that, having made the fullest inquiry into the affairs, past progress, and present and future prospects of the company—with every detail of which he was perfectly satisfied—he had become a shareholder, and the directors had done him the honour of electing him their chairman; he assured them that he took that office with the full intention of exerting himself to promote, to the best of his ability, the prosperity of the institution.

The report and balance-sheet were then read, which entered into a full statement of the affairs of the company, and a detailed account of the receipts and expenditure. It appears the company have entirely restricted their operations to genuine life assurance business—no part of their accumulated capital having arisen from the purchase of annuities; in the course of five years they have realised a profit of 38 per cent. on the paid-up capital, after setting apart a sum sufficient to purchase, from any respectable insurance office, an indemnity for every engagement undertaken, and in all participating policies on which five years' premium has been paid, a reduction of 25 per cent. was declared.

The CHAIRMAN expressed the great satisfaction he felt at the confidence which it was evident the public placed in the institution—every class of persons who became applicants for their assurance expressed that confidence; and it was a proof of the known stability of the company, when many of their policies were held as securities by the most influential English mercantile companies, and by many of the other life assurance companies, as re-assurances of portions of their own policies.

A vote of thanks being passed to the chairman, the meeting separated. [We noticed the growing prosperity of this company in the Journal of March 30, 1844, and the several peculiar features by which its proceedings are regulated—its ascending and descending premiums—seven years half credit—its mutual participating principle—creditors' whole world policies, &c.; and we are still of opinion that this institution holds out special inducements to parties of every position and class in society, who are about to place themselves in a situation to reap the numerous and incalculable advantages which the principle of life assurance secures.]

**BRITISH COLONIAL BANK AND LOAN COMPANY.**—An extraordinary general meeting of the proprietors was held at the offices, Moorgate-street, on Wednesday, the 16th inst.—Mr. STEWART in the chair—for the purpose of confirming the resolutions passed at the general meeting of the 2d inst.: when a motion having been made and seconded to that effect, a PROPRIETOR objected to the resolution, by which the local directors were considered as forming part of the London board—it being perfectly absurd to suppose that parties at a distance of 15,000 miles could have any knowledge or control over the London management; but the CHAIRMAN, explaining that their only motive was economy, and the SOLICITOR of the company having given his opinion, that it was a perfectly legal construction of the clause in their Deed of Settlement, the motion was ultimately carried, when the meeting separated.

**LANCASHIRE COAL OWNERS.**—The coal owners of this county are applying to the Commissioners of the Property and Income Tax for permission to deduct the amount of their bad debts from their returns of income. Hitherto they have not been allowed the benefit of this deduction, owing to their returns being made under a schedule which applies to kinds of property seldom affected by bad debts.—*Whitehaven Herald.*



## LOCOMOTIVE STEAM-ENGINES.

At the Institution of Civil Engineers, a paper was read by J. G. Bodmer, Mem. Inst. C.E., "On the Advantages of Working Engines with High-pressure Steam Expansive, and at Great Velocities." The author based his observations upon the principle of a considerable area of piston being essential for taking advantage of the initiative impulse of highly elastic steam, in contradistinction to the idea of the percussive action which had, some time ago, found advocates. In order, therefore, to take advantage of this action, and be enabled to cut off the steam at an early period of the stroke, the piston at short intervals, and, consequently, making a great number of strokes in a given time, must travel over a limited distance, that as little as possible of the heat, and, consequently, of the elasticity, should be lost. It has been generally acknowledged that the action of a short crank and rapid stroke is very disadvantageous to the framing and foundations of ordinary engines. Mr. Bodmer has, in constructing his compensating engines, concentrated the action, and confined the strain to the crank, connecting-rod, and piston-rod. By this construction he has been enabled to carry the expansive principle to such an extent, as to deliver the steam into the condenser, almost in a state of mere vapour, or within 3 lbs. of a vacuum. The saving of fuel must, therefore, be in proportion, and there must be a very considerable reduction of the actual weight of the machinery, and of the coals on board steam-vessels on long voyages. The paper considered, at great length, the reasons upon these principles, and the peculiar construction of the compensating engines was illustrated by several models and detailed drawings, showing the peculiar action of the expansion valves, and the two pistons in each cylinder. The great difficulty encountered appeared to have been in the valves of the air-pumps, which were destroyed by the extreme rapidity of the action, this was provided for by constructing an air-pump without valves. By a peculiar arrangement of the air and water passages, it became practicable to substitute for the ordinary cover a piston travelling through a very limited space, and for the air-pump bucket a solid piston travelling the full length of stroke; the valves were thus done away with, and the action of the engine became complete. This construction has been adopted with great success in several stationary and locomotive engines, and is now being applied to marine engines, to which it is peculiarly applicable, as it is of great importance to be enabled to work the Archimedian, or screw, propeller, without the intervention of bands or wheel work.

Mr. J. Woods exhibited and explained the action of Siemens chronometric governor. The centrifugal governor of Watt being acknowledged to be an imperfect instrument, in consequence of its inability to adjust the valve to the altered circumstances of the load of the engine, Mr. Siemens invented the chronometric governor. The new instrument was stated to have been at work successively for some time at Carpenter's Corn Mills, Shad-Thames. It consists chiefly of a heavy pendulum, which is allowed to move to a certain arc of vibration of chronometric revolutions, and it is connected with the horizontal pinion above; which, therefore, moves in union with it. An endless screw is geared in contact with the horizontal pinion, and is drawn by a constant weight in a horizontal direction; it has, therefore, a tendency to produce revolution of the pinion and pendulum. This horizontal screw must be turned by the engine at the exact velocity necessary to insure its running in gear with the pinion, driven at the constant velocity dependent on the length of pendulum; and, should the engine succeed in turning the screw at the proper velocity, no horizontal movement will take place, and the weight on the lever before-mentioned, continues a constant driving power independent of the engine, for overcoming the existence of the atmosphere and the friction of the pendulum. If the load, or the supply of power, varies, a tendency to alter the speed of the horizontal shaft immediately commences, and it takes up a new position, by having travelled faster, or slower, than the pendulum and its pinion, and it retains this altered position; and, consequently, the adjustment of the valve, by means of appropriate connecting levers, until the conditions of equilibrium of load and power are again varied. The action of this governor is so sensitive, that no variation of the speed of an engine—when 40 per cent. of its load is thrown off—can be observed, for the entire change is performed in one-fifth of the revolution of the fly-wheel; this change absorbs, or adds, a portion of the momentum of the pendulum, and slightly alters its arc of vibration, the limit of which is between 18 deg. and 21 deg.; and, by the laws of pendulous motion, this is shown to effect the number of revolutions to the amount of only 8 per cent. of its velocity, and even that small variation in the extreme position of the pendulum ceases, immediately the momentum is restored to its former condition.

## STEAM-BOILER EXPLOSIONS.—THEIR CAUSE AND MEANS OF PREVENTION.

—We were much gratified to hear, at the Royal Polytechnic Institution, a lecture on the most important discovery since the invention of the steam-engine itself, involving, as it does, life and property of incalculable amount. Dr. Ryan, the learned lecturer, gave it as his opinion that by far the greater number of steam-boiler explosions arise from the incrustation of the boiler, which prevents the boiler from acting efficiently as a conductor of the heat of the fire to the water. Almost all water, whether it be spring or sea water, holds a quantity of bicarbonate of lime in solution. The heat necessary to produce steam drives off one portion of the carbonic acid gas of this bicarbonate, and reduces it to the state of carbonate of lime—an insoluble compound, which is precipitated against the sides of the boiler, forming an incrustation, which becomes a nucleus, around which other salts crystallise, which salts would not, however, become crystallized were it not for the presence of this nucleus. It follows, that if the deposition of carbonate of lime could be prevented, the chances of explosion would greatly diminish, if not be prevented altogether. Dr. Ritterbrandt has discovered a cheap, easy, and safe method of entirely preventing the incrustation of steam boilers by chloride of ammonium (the common rock sal-ammoniac of commerce), which prevents the formation of the insoluble carbonate of lime. The chloride of ammonium is composed of chlorine, ammonia, and hydrogen, and carbonate of lime, of carbonic acid, gas, calcium, and oxygen. The hydrogen of the chloride unites with the oxygen of the carbonate and forms water. The chlorine of the chloride unites with the calcium of the carbonate and forms chloride of calcium, a salt which is, perhaps, one of the most soluble compounds known, and the carbonic acid of the carbonate unites with the ammonia of the chloride, forming carbonate of ammonia, a compound so volatile, that it is drawn off in the shape of vapour, and thus the incrustation is entirely prevented. Both Drs. Ritterbrandt and Ryan deserve great credit, one for so valuable an invention, and the other for the scientific manner in which the lecture was delivered, and the large audience seemed fully to appreciate the value of the invention, by their loud applause throughout the lecture.

SCREW PROPULSION.—On Tuesday afternoon, E. Galloway, Esq., delivered a very interesting lecture at the United Service Institution, Middle Scotland-yard, on the different methods of propelling steam-vessels. The room was very fully attended, principally by officers of the army and navy, and several ladies, who appeared to take a great interest in the subject. The lecturer had various diagrams, and some very excellent models of the different vessels that are propelled by the screw in her Majesty's navy. The invention of the screw is one of the most ancient date. Archimedes, from whom it takes its name, wrote very largely on the subject, that it would be the means of propelling vessels, should any other power be discovered to bring it into action—the idea of steam then never having been once contemplated. Pythagoras was also strongly in favour of the screw, but he, like Archimedes, could not discover a force to work it, although the efficacy of it appeared to him certain. The French have taken upon themselves the glory of being the first inventors of the screw, and many works have been written on the subject as early as 1782, and since, in 1804, down to 1825. The system was contemplated by the Minister of Marine during the late war, and a representation was made to Napoleon; but the power of steam not then being known, it was entirely abandoned. The building of steam-vessels in this country having made such a rapid progress, it has been a most important question to the Board of Admiralty, which is the best method of adoption for the Government vessels—the paddle-wheels or the screw? The latter is becoming generally adopted, from the facilities it affords of being shipped or unshipped, as necessity may require; and, in case of an engagement with an enemy, or in boisterous weather, the screw will always have the advantage over the paddle-wheels. The lecturer gave some very excellent illustrations of the screw, and the advantage it has over all other systems for long voyages, and referred to the *Archimedes* steam-frigate, the *Royal Victoria* and *Albert*, and *Rattler*, and several other steam-vessels of the Royal Navy where it has been adopted by Government, and also by the *Great Britain* steamer. In his opinion, he had very little doubt that it will, in a few years hence, be introduced generally. During the lecture there were continual marks of approbation at the explicit manner in which Mr. Galloway delivered his illustrations.

MAMMOTH LOCOMOTIVE.—Mr. Norris, the celebrated engineer, of Philadelphia, has just finished a locomotive, for the Long Island Railway, which is to carry 800 passengers, and to run ninety-seven miles in rather over two hours.

THE RAILWAY SYSTEM AND ITS PROJECTOR.—A recent London *Mining Journal* claims for Thomas Gray the credit of having been, as far back as the year 1818, the great originator of the railway scheme; but, in the year 1812, six years previous, the late Colonel John Stevens, of Hoboken, N.J., laid before Congress a pamphlet, setting forth, in a clear and forcible style, the superiority of railways over canals—not only for travel, but also for transportation of agricultural products, and other heavy articles of traffic.—*Philadelphia Courier*.

SAMBRIDGE AND MERSE RAILWAY.—The works on this line have at last commenced, and nearly 1000 men are now busily excavating and cutting the surveyed ground, preparatory to the laying down of the rails, and erecting the necessary stations. The district through which this line will run is one of the most mineral of Belgium, abounding in iron, copper, lead, zinc, coals, &c. Numerous extensive works are in operation, and it may be justly considered the Cornwall or Wales of Belgium. These lines will establish a regular communication with nearly every part of France, Germany, and even Russia, where railway speculations are carried on to a large scale.

## THE VACUUM IN ATMOSPHERIC PROPULSION PRODUCED BY THE DIRECT ACTION OF STEAM.

Mr. James Nasmyth, whose indefatigable exertions in carrying out improvements in machinery are so well known and appreciated—whose forge hammer and pile-driving apparatus, worked by the direct action of steam, are making such beneficial changes in the various operations to which they are applied—has just obtained a patent for a novel plan of producing the vacuum necessary in the tube of the atmospheric railway, and here his favourite power, steam by direct action, is again brought into requisition. The great objection to the atmospheric system at present is, that in consequence of leakage, &c., a much larger consumption of fuel is necessary to produce an equivalent amount of power, in comparison with the locomotive engine. Much ingenious investigation has been, and is being, exercised, either so to improve the continuous valve as to prevent the admission of air, or to dispense with it altogether, by the introduction of an entirely different principle for the connection of the carriages outside, with the travelling piston inside the tube; but, whatever success may attend the efforts to mature the several plans which are now before the public, the economising the production of that power which produces the vacuum is in itself the most important point, in a pecuniary point of view, in the whole system of atmospheric propulsion. By Mr. Nasmyth's invention, he is enabled to dispense with the complex system of stationary engines and air pumps, as at present used—the whole apparatus substituted in their place being a series of two or more large upright air-tight chambers, connected at top by slide valves, and made of boiler plate, to which the steam is admitted from a common low-pressure steam-boiler. The bottoms of these vessels open by suitable valves into the railway main pipe, and also with the open atmosphere, to permit the exit of the air. In order to produce a vacuum, the steam is admitted at the upper end of one vessel, and, as it flows in, does not in the slightest degree mix with the air contained therein, but forces that air out through the valves at bottom, precisely the same as if acted on by a piston, the separation between the two columns of air and steam being perfect. As soon as all the air has escaped, and the vessel, consequently, full of steam, a jet of cold water is thrown into the condenser, which is connected with the chambers at the same moment; the valve is so regulated that the vessel is closed at top, having a vacuum equal to that produced by the best steam-engine, while the connection with the main pipe is opened, and the air rushes into the vessel; in the next vessel the steam is admitted at the top, in like manner with the first, and the alternate production of vacuum and admission of air from the main, goes on with a rapidity and regularity greater than by any steam-engine, as the amount of resistance from friction is absolutely imperceptible, and all that is requisite to cause these two large vessels (or as many more as may be considered requisite) to continue the exhaustion of the main pipe, is, to cause the slide valves at top, and the others at bottom of the apparatus, to work in their several proper positions with regularity.

To render this apparatus perfectly self-acting, the inventor has introduced two small tanks of water placed over the discharge valve, in each of which is placed a small gasometer having a hole in the top, and as the discharged air bubbles up through the water, some of it collects under the gasometer and lifts it up; but, the moment the last bubble of air is gone, and by the action of the valves, steam begins to enter at the top of the other vessel, the gasometer, in consequence of the hole at the top, immediately sinks, causing just at the right time the reverse action of the valve—thus giving the apparatus almost a discriminating power to act at only the proper moment. One very great advantage by this wholesale production of vacuum is also gained, by bringing an entire set of any number of great chambers into the condition of one vast magazine of vacuum; and, on the instant of the signal being given to start, by opening the communication with the main pipe, the train would immediately proceed at a rapid rate on its journey—a far more certain and expeditious mode than waiting the effect of air-pumps, with the gradual leakage, and loss of power, until the closing point is reached by the continued exhaustion. Mr. Nasmyth proposes that these vacuum chambers should be lined inside and outside with wood to economise the heat, and prevent loss by radiation, and that they should be enclosed in brick towers, or buildings, which, by diversified architectural design, might be rendered highly ornamental to the various points on the line where they are situated. This discovery is, doubtless, an important one, bids fair to produce a vast change in this yet infant mode of propulsion, and, by greatly economising the production of power, place the system in a more satisfactory light before the public.

THE NEW RAILWAYS IN ULSTER.—We perceive that the 24th inst. has been fixed as the day for allotment of shares in the Great County Down Railroad, which appears to have met with a degree of favour even greater than might have been anticipated from a project so comprehensible and feasible in itself—and backed by a local proprietary unequalled, for rank, numbers, or influence, in the whole province of Ulster. These noblemen and gentlemen are pledged not merely to support the Great County of Down, but to oppose, by every means in their power, several of the smaller lines lately put forward in that fertile county; and hence those schemes have considerably fallen of late in the market, as, with so overwhelming an opposition as that offered by the larger undertaking, their ultimate success is hardly possible. Many of the promoters of this great line are also actively engaged in another new project in the same district, and one of scarcely less importance, as being conducive to the prosperity of the locality it is intended to serve—we mean the "Newry, Armagh, and Londonderry Junction," which, irrespective of its potent claims to the attention of capitalists seeking a permanent investment, has also the rare merit, in these days, of neither being menaced with a fictitious opposition, nor of being liable to a real one, owing to nearly the whole of the local landowners being engaged to assist in it. Among the supporters of both lines are several of the directors of the Newry and Enniskillen Railroad, for which the Act has just been obtained. Important testimony to the utility of the Newry and Enniskillen was borne at the late Armagh Assizes by the county surveyor (Mr. Lindsay), who stated that the line would be a saving of rates to the amount of 30,000*l.* The shareholders in this undertaking are much more fortunate than holders in nearly all other Irish lines, inasmuch as no call will be made for about two months to come, so effectually have the directors husbanded their resources from the original deposits, and so judiciously have they economised their expenses. Had the preliminary matters in other lines been equally well managed, we should have heard little—as yet, at least—of the panic that has affected the Irish market, whereby the Newry and Enniskillen shares have so unjustly suffered a temporary depreciation much below their actual value.

(From a Correspondent).—We are happy to see that this railway company is progressing as favourably as its best wishes could desire; the application for shares have far exceeded the extent of allotment, which is now fixed to take place on Thursday, the 24th inst. Supplying as this railway will the entire county of Down with complete railway accommodation, and uniting with other important lines, connecting it with all parts of Ireland, it will, doubtless, confer upon this "garden of Ireland," as it was termed in the Land Commissioners' Report, advantages—the extent of which cannot be foretold—and general convenience to the public. The manner in which this project has been met by the landed proprietors of the county—the provisional committee representing more than three-fourths of its entire rental—is the best guarantee of the soundness of the undertaking; that no severe Parliamentary opposition will swell the preliminary charges, and that, in its construction, every economy will be regarded consistent with permanence and security.

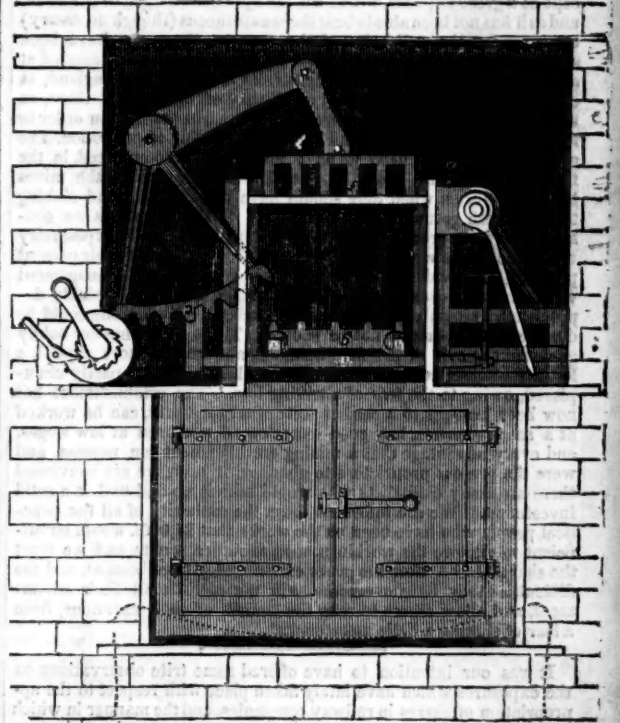
SHEFFIELD AND MANCHESTER RAILWAY.—The line between Sheffield and Dunford Bridge was opened on Monday, on the morning of which a large body of the shareholders left the Sheffield station, in a train consisting of about a dozen carriages drawn by two engines, the first of which was driven by Mr. Alfred S. Gee, the resident engineer of the line. One of the carriages contained a band of music, and others were decorated with a number of flags. The hills around the station and the adjoining bridge were covered with great numbers of spectators, who greeted the departure of the train with hearty hurrahs. The occasion was not celebrated by any other demonstration, formal proceedings being deferred to the completion of the Summit Tunnel in September or October next, when the opening of the entire line will be celebrated. On the previous Wednesday the directors went over the line, drawn by one of the new engines made by Sharp Brothers, of Manchester, with its tender, and attached to a commodious coal wagon, borrowed from Messrs. Bradley and Johnson, who are making a quantity for the Manchester and Leeds Company, temporarily fitted up as a passenger carriage, the Midland Company having refused the loan of a carriage for the occasion.

EFFECT OF NEW RAILWAYS ON THE PRICE OF COALS IN LONDON.—Mr. Mahon, in giving his evidence before the committee on the Cambridge and Lincoln line of railway, stated that he had had the management of coal mines in Derbyshire for twenty years past; that the coal-fields of Clay Cross, Wingerfield, and Staley, were capable of unlimited supply, and he believed that the Clay Cross and Staley coals were quite equal to the Durham. By the proposed new lines of railway these coals could be delivered in London at 14*s.* 10*d.* per ton; Erewash coals as low as 10*s.* 6*d.*—while the Wingerfield, which were not so good in quality, could not be delivered in London under 12*s.* 6*d.* per ton.

The disputed prices of iron in the Clyde and other districts continue to occupy attention in the metal markets, but much more firmness prevails in Wales, where it is asserted that there is a greater command of the market, in consequence of the quality of the iron being more suited for railway bars.—*Mid. Counties Mld.*

## COUPLAND'S PATENTED SMOKE CONSUMING FURNACE.

We have this week been favoured with the inspection of Mr. Coupland's furnace for the consumption of smoke and saving of fuel, and, we must confess, that, whatever merits may be possessed by the numerous plans which have been brought forward (and we have seen them nearly all), our opinion is, that Mr. Coupland has achieved what none of them ever achieved before—not the consumption of smoke, for there is none to consume, but the complete and thorough oxidation of the fuel, none of it going off in streams of solid carbon, but in those invisible gases the result of perfect combustion—viz., carbonic and sulphurous acids, the vapour of water, &c. The plan by which these desirable results are obtained will be understood by the annexed cut. On proceeding to feed the fire, the grating, *f*, is raised up to the bars, and, by stopping the openings between them, prevents the smallest particle of fuel from falling; by the lever on the left, a number of bars or plates are slid across the furnace over the fire-bars, and beneath the fuel to prevent its falling; the latter, with the grating, *f*, then descends, and the fuel necessary being supplied, the bars are raised, and the cross bars withdrawn—the furnace door thus not being opened, perhaps, all day after first lighting the fire. Nothing can be a greater proof of the complete success of this plan, than the simple fact, that as long as the door remains closed not a particle of smoke is to be seen, but open it, and smoke appears, though then nothing like so bad as with a common furnace. The part of the bars which are made to descend are about one-third of the whole bed of the furnace; on each side the bars are fixed as usual. The simplicity of the machinery for performing the necessary operation is another recommendation in favour of this plan; it does not require any power from the engine, but is merely a hand operation, performed with the greatest ease, and the machinery is quite away from the action of the fire.



The following experiment shows the advantages in the evaporating power of this furnace, and the saving of fuel, in addition to that of producing no smoke:—9 cwt. of coal, at 24*s.* per ton, evaporated by a furnace on the old plan 558 gallons of water; by the new 670—showing a balance in favour of the latter of 112 gallons, or about 20 per cent. Screenings, at 12*s.* per ton, were next employed, to ascertain what fuel was best suited to the new plan, when 18*s.* worth gave the same results as 24*s.* worth of best coal. We cannot help thinking, if a commission is appointed by Parliament to ascertain and report on the best smoke-consuming (as it is termed) furnace, that the one under notice must be successful.

BIRMINGHAM AND GLOUCESTER RAILWAY COMPANY.—A special general meeting of proprietors was held at the offices of the company, Birmingham, on Thursday, the 17th inst., for the purpose of considering a bill now before Parliament, to enable the company to make extension lines at Gloucester, a branch at Stoke Prior, and a junction with the Midland Railway at Aston-juxta-Birmingham.—Mr. S. BOWLEY (chairman of the board of directors) in the chair.—The SOLICITOR having read the marginal notes of the bill, the CHAIRMAN said, this was a bill in which the Birmingham and Gloucester Company were only indirectly interested.—Mr. HOMER understood the bill had been read a third time in the House of Commons, and wished to know in what stage it was in the Lords.—The SOLICITOR: It will go before the Standing Orders Committee to-morrow.—The CHAIRMAN, in reply to a proprietor, said, the expenses will be borne by the Midland Company, the Gloucester Company having only an indirect interest in the bill; the dividend had been compromised with the Midland Company; it was to be committed for 26,000*l.* There was a little question between the two companies—the Birmingham and Gloucester Company, and the Bristol and Gloucester Company—but it was a very small matter. The dividend would be something like 1*l.* 17*s.* 6*d.* per share.—A DIRECTOR: That is up to the 1st of August. The dividend will be then 3 per cent. for the half-year. We may say that the dividend to the 1st of July will not be less than 1*l.* 17*s.* 6*d.* per share, and not more than 2*l.*—The meeting then separated, the proceedings having lasted about seven minutes.

WEXFORD, WATERFORD, AND VALENTIA RAILWAY.—The allotment of the shares for the construction of this line having been made, we are glad to see that the managing committee are following up the preliminary measures by such spirited and active exertions as will secure the best line to the public, and the greatest amount of return to the shareholders. Their engineer, Mr. Gravatt, has just made his report to the directors, by which he shows an almost total absence of engineering difficulties, and that with a double line of rails the cost will not exceed 8000*l.* per mile. We look upon this as one of the most important railways in Ireland—it will completely intersect the country in its very centre, and, in a distance of 131 miles, connect the two coasts at the very best points of communication between England and America—Wexford on the east, and Valentia on the west, besides opening a valuable line of traffic through a rich and densely-populated country—thus leading the way for a speedy transit to the English markets, and a development of those mineral and agricultural resources which are so prolifically scattered throughout this island's course, in the interior and west of Ireland.

DEMAND FOR LABOUR.—Not less than 150 strong able men have left the immediate neighbourhood of St. Helen's, in Lancashire, to seek employment on the French railways; from the scarcity of hands, wages are rising, and agricultural labourers now obtain 14*s.* per week.

GIGANTIC FOSSIL REMAINS.—The *Mobile Advertiser* states that Dr. Koch (a gentleman who has devoted so much time to researches in fossil geology) has lately discovered, in the state of Alabama, in a yellowish limestone formation, the remains of an enormous animal of the saurian tribe, which puts everything yet found in the shade; he has succeeded in bringing to light nearly the complete skeleton of this terrible monster, which he terms "the King of Kings of reptiles." It is said to be 104 ft. in length, each vertebral bone is from 14 in. to 18 in. long, by 8 in. to 12 in. in diameter, and weighs, on the average, 75 lbs.; its jaws are of enormous length, containing forty incisors (or cutting teeth), four fangs, and eight molars (or grinders); the teeth in the upper and lower jaws lock together when the mouth is closed, evidencing that the animal was carnivorous; the eyes were very large, and prominently situated, enabling it to keep a vigorous watch for prey; its paddles, or fins, are small in proportion to its size, made up of twenty-one bones, forming seven freely articulating joints; the ribs are three times in thickness at the lower than they are at the upper extremities, and much more numerous than in other species. This reptile is very considerably larger than any yet discovered, not excepting even the famed *Missourium*, which, we believe, was also discovered by Koch.—We should recommend Dr. Koch either to secret the remains of this monster, or keep his own counsel—otherwise, should "Antemegatherium" discover it, we expect that he will play Don Quixote with this oreopile, coming so soon to light after others of his species had been denounced, show an assurance only commensurate with its size; the impudence of the animals of the carboniferous era is really astonishing.



# THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JULY 19, 1845.

Our readers will observe, by the report in another part of our paper, that the Alten Mining Association, which was threatened with a dissolution, has had the evil averted for some time—the meeting having adjourned for three months, in order that a provisional committee might be formed, either to sell the works, or create fresh capital. Some portion of the shareholders present at the meeting did not appear very sanguine as to the results; but when we consider these works were established in the year 1826—have subsisted from that period till the present time, through good and evil report—and have returned in produce more than 200,000*l.*, and that dividends have been declared, we think that they should not be abandoned without a struggle. These works, situated within a short distance of the North Cape, at the most northerly part of Europe, under a climate which has nine months' snow, have had almost incredible difficulties to contend with. When first discovered in the year 1826 there was not an inhabitant on the spot; the proprietors had to bring people from England and the southern parts of Norway, at high wages—to build houses for them—to make roads, &c.; in short, entirely to colonise the locality. This could not be done except at a great expense, which has always been charged to the mine, and as it has not been able to bear these extraneous (though necessary) expenses for the well-being of the concern, the works have been stigmatised as bad. Smelting-works were subsequently erected at a vast cost; smelters were brought from Germany and England, at expensive salaries; not having a quantity of fusible ores there, as at other places, costly experiments were put in practice, in order to find out the proper fluxes and bring the smelting to perfection. The great error appears here to have been having commenced, in the first instance, with much too small a capital, stopping the mines to make returns, when they should have been driving and sinking to open fresh ground. The declaration of the dividends we consider, likewise, premature, as had they been laid out in exploratory work, the mines would not at this period have been in their present position. A dividend having once been declared, the management were forced, in order that the shares might not be too quickly depreciated, to keep the mines to that pitch, that if no profit could be declared, a loss should not be shown. Through not having boldly grappled the evil in the first instance, and raising more capital, a locality intersected with mineral veins has been left partly unexplored, owing to the fear of a trifling loss. The establishment has now been brought to a perfect state of arrangement, can be worked at a small expense, has good experienced workmen at low wages, and every advantage that a mining establishment can possess, and were the present proprietors to abandon it now, we are convinced there are many capitalists who would take it up and find it a solid investment. We are informed, from the authority of all the practical people who have been on the works, that 25,000*l.* would be sufficient to explore the workings, so as to return profits, and we trust the shareholders, after the great expense they have been at, and the difficulties they have overcome, will not sacrifice all their advantages, and allow others to reap the benefit of their exertions, from a fear of sinking a little more capital.

It was our intention to have offered some trite observations on the exposures which have lately taken place with respect to the appropriation of shares in railway companies, and the manner in which interest and patronage are secured; but, as some inquiries are still going on, which may involve many parties, whose position in society has, heretofore, been deemed sufficient to disarm suspicion, we abstain from entering on the subject so much in detail as we should, otherwise, feel it to be our duty to do. Yet, we cannot allow the late inquiry, involving the probity and character of Mr. HIGNETT, the solicitor to the Board of Trade, and two of the Lord's Commissioners, who indirectly, it may be supposed, possessed some power and interest in the passing of the measure, to pass by quite unnoticed. In this case, there were rival lines, and the solicitor to the Board at least held out to the projectors and supporters of the one, the prospect of aid at head quarters; the consequence of which was, the appropriation of certain shares, which, being sold in the market, yielded a premium, and thus gave the *quid pro quo*. We are well aware that, at a time when it is only necessary to obtain an appropriation, in most cases, to insure a premium, many a *ruse* is resorted to with the view of securing shares, and we have no hesitation in saying, gross deception and fraud is oft practised to attain this object. The mere "writing for shares," is a complete farce; many are there, who, without a habitation, or a name—at least, such as they would attach to their application—are to be found amongst the list of applicants with false signatures and address. Why, we would ask, is it, that an example is not made of one or other? We believe, however, that the matter is of too general a nature, and being so universal, single instances are allowed to escape notice. We have been given to understand that the subject will be brought under the notice of Parliament. We shall see.

We referred to the important subject of the manner in which salt is admitted into British India in the last Number of the *MINING JOURNAL*, and again make a few remarks on what we consider a very restrictive monopoly exercised by the authorities of the Hon. East India Company over the introduction of this necessary article into the presidencies of Bengal and Madras. All monopolies are detrimental to the welfare and prosperity of a nation, and her commercial intercourse with other countries. That the manufacture of salt in the above presidencies, is a most lucrative speculation to the Government there can be but little doubt, as the consumption of the presidency of Bengal alone is estimated at upwards of 250,000 tons annually; and that of Madras, from 95,000 to 100,000 tons; and Calcutta transmits into the interior to a considerable amount, although the salt there is generally of an inferior quality compared with the other, or that imported from England. The tax levied upon this article is most onerous, and its high price is the theme of general complaint among all classes of her Majesty's loyal subjects in that extensive portion of the British empire, military as well as civilians—while the company are accruing the advantages unmolested by the Government at home. A change in this system must speedily take place, by the introduction of railway communication now on the point of being adopted generally in the different presidencies and the interior; as the adulteration of salt is a most profitable speculation to hundreds, who evade the officers of the company, and send it by stealth to nearly every part of the empire. The time is fast approaching when the monopolists of the east must make a great change in their tariff restrictions on British goods in general, and particularly the interests of the white salt proprietors of Cheshire, Worcestershire, Lancashire, and Derbyshire, call for it loudly, if they wish to prevent the smuggling that is carried on to an alarming extent by the Dutch, Portuguese, French, and Americans, not only in cotton and silk manufactures, but salt in particular. By admitting this necessary article at a moderate duty, it will not only enable the natives to purchase it in a pure state, but put an end to the speculation now carried on in nearly every part of the country, notwithstanding the vigilance exercised by the *employés*. The trade in this commodity with China is rapidly on the increase; and let the company consider well the importance of the subject before it is too late, and act with justice towards their own countrymen before it is wrested from them by

foreigners. The restrictions under which the white salt proprietors of England are labouring from the Indian authorities, have attracted the earnest attention of the Board of Trade, and also the Board of Control, who are most anxious to render every facility to promote the interests of the British salt trade in any of the new commercial treaties with foreign countries. In France, there is a monopoly over salt, tobacco, and snuff, by the Government—the same in Portugal and Spain; but this exaction is evaded by smuggling, and they have found it more beneficial to the revenue to allow the importation of these articles at a moderate fixed duty, so as to prevent the illicit traffic from Belgium and Holland, and in Spain and Portugal, from Gibraltar, where there is annually to a very large amount imported by the English and American shipping that visit that port. For the present, let the salt manufacturers wait with patience till the return of the answer to the memorial that has been sent out to India by the board of directors, as promised in their letter of the 2d ult. to the committee of the white salt proprietors of England; and let us hope, that the impediments now existing to that branch of English industry will be partially removed, by reducing the duties, and the restrictions that now prohibit a free commerce of that article to our Indian possessions.

We have received several communications on subject of the prices of mine shares, more especially directing to those obtained for shares in Wheal Maria—700*l.* being the quoted price for a 1028th share. This mine is certainly one of the most extraordinary discoveries ever made in Cornish mining. True it is that we have heard of the Ecton Mine, and have seen the immense results arising from the Mona and Parys Mines in Anglesey, and other districts have yielded vast returns. The Consolidated Mines, with their numerous lodes, have yielded largely; the Tresavean, the Carn Brea of late days, and the Wheal Alfred, the Wheal Vor, the Dolcoath, and Cook's Kitchen district, and numerous other mines, which we might mention, afford full evidence of the richness of the deposits; and many of the Cornish lodes, which have been worked perseveringly to a great depth, and to a considerable extent on their run, afford conclusive evidence of the value to be attached to mines in particular localities, and to lead us to believe no returns too incredible which the mind may contemplate. In looking at Wheal Maria, it is, however, to be observed, that she is only in her infancy—being some thirty fathoms deep and seventy fathoms long, so far as the ore ground has been developed. This discovery, if we are to judge by the market price of shares, exceeds all that has preceded it; and, it is our duty, without the slightest desire to militate in the least degree against the interests of the shareholders, or to cast a damp on the bright prospects which present themselves, calmly, but firmly, to canvass the security upon which transactions of such a magnitude, and at prices which appear to us so excessive, are effected, and while there is yet time to warn the public of the consequences which must attend any deterioration in the mine, or a falling off of produce. It must be apparent to all who will give the subject one moment's reflection, that, if holders in mines at these excessive prices are not "let down" easily, the mining interest altogether suffers. Speculators become more than ordinarily cautious, suspicion is engendered, and things deserving of outlay and encouragement are, consequently, neglected, injured, or destroyed. Suppose that we make a calculation, by way of exemplification, of our views. The Wheal Maria lode is said to yield 20 tons to a fathom, worth 10*l.* per ton, or 200*l.* to the fathom. We will say take the lode as bearing ground to this extent for 100 fathoms long—this would give us 20,000*l.*; by saying fifty fathoms deep, this would amount to a million of money; and, taking one-half as net profit, we should have a surplus of 500,000*l.* divisible among the adventurers. If that this quantity of ground had been laid open, and the data we have here assumed once satisfactorily ascertained, we should have no difficulty in arriving at a conclusion as to the advantages which the mine presents, and should, accordingly, feel no hesitation in offering an opinion; but, until this is effected, we must say, we feel somewhat scrupulous on this point: our present object being only to direct attention to a point, which, we apprehend, is too much lost sight of. In calling attention to this mine, it is possible our remarks may provoke commentary on the part of those interested, who naturally consider that "the value of a thing is just so much as it will bring;" and, we can only say, that it will afford us much pleasure in recording evidence which will establish the value of the shares at the price now attached to them; but, being strongly convinced, not only of the importance of the point at issue, but the soundness of our views, we have no hesitation in calling the serious attention of our readers to the subject. We offer our remarks in sober seriousness, and words of caution are, at times, as valuable as gold. There are two questions to which, then, we invite attention.—1st, What will the adventurers in Wheal Maria say in two years if we are wrong? 2d, How will the proprietors in Wheal Maria look in two years if we are right? In conclusion, we beg to repeat that the preceding remarks may be considered to apply generally to mining, and we recommend in all cases that the number of shares should be multiplied by the price.

It was our intention to have rendered an abstract of the proceedings in the law courts in Dublin as affects the doings of the Talacre Coal and Iron Company, and certain of the parties connected with that project having at some pains obtained the notes of evidence, and the charge of the learned judge, to which it was our intention to have appended a review of the several causes brought into our courts of law (six in number) bearing on the subject. The continued demand on our columns, however, precludes us from affording the space required for doing full justice to the subject, and hence we must defer its insertion. We should not have adverted to the matter here, but, having received more than one communication, the insertion of which we must decline, as the object is too apparent, it is meet that our correspondents should understand the subject has not escaped our notice, nor are we otherwise than well informed as to the movement in the City.

EXHIBITION OF MINERAL PRODUCTIONS AT BERLIN.—The annual exhibition was held at Berlin, and attracted the attention of all those interested in mining speculations. The forging of iron has made the most rapid progress within the last few years throughout Germany. The royal foundry of Berlin was the first, now thirty years ago, to give an impulse to this industry, since which period it has abandoned the casting of fine metals for articles of fancy, and now confines itself to casting of large sheets, for machinery and building, in which they pay particular attention. They employ either new iron, imported from England or Silesia, or recast the old in amalgamating it with finer sorts; the sand used is procured in the vicinity of Berlin, and a red sand imported from England. In general the price of cast-iron of fine quality is the same as it is in France, from 1*l.* 3*s.* to 1*l.* 5*s.* the 100 kilos. (2 cwt.). The bars of iron presented at the exhibition, manufactured by wood or coal fuel, were of an excellent quality, well worked, and not inferior to those of England. The price of Silesian iron, worked with wood, was for ordinary size, 1*l.* 10*s.* the 2 cwt.; rods or bands, 1*l.* 15*s.*; small sized, 1*l.* 12*s.* to 1*l.* 18*s.*; that worked with coal, 1*l.* 5*s.* to 1*l.* 10*s.*. In the Hartz the common iron, with wood, is sold at 1*l.* 12*s.*. On the Rhine and Westphalia common iron, with wood, is sold at 1*l.* 10*s.* to 1*l.* 15*s.*, that by coal at 1*l.* 5*s.* to 1*l.* 10*s.*, per 2 cwt. In Bavaria, iron varies from 1*l.* 10*s.* to 2*l.* 2*s.*; in Thuringia, from 1*l.* 18*s.* to 2*l.*. In Belgium, the prices vary greatly from the above—viz., common at 1*l.*; ditto, for rails, twice refined, 1*l.* 6*s.* 6*d.*; first quality, three times refined, 1*l.* 2*s.* 6*d.*; and for superior qualities, 1*l.* 10*s.* the 2 cwt. The English irons which are imported into the Zollverein are composed of 5 per cent. of Welsh iron, 30 ditto Yorkshire, and 65 ditto Staffordshire. At present they are obliged to import their supplies from abroad (England or Belgium); but, as some extensive speculations in mining operations are about taking place, there is little doubt they will soon be able to manufacture sufficient for their own consumption.

THE IRON-TRADE.—The meeting of the ironmasters for the purpose of transacting the usual quarterly business of the Dudley district was held at the hotel on Saturday last, and was numerously attended; the principal business, of course, being to confirm the prices agreed upon at the Birmingham meeting on the Thursday previous. We have before observed that, although during the past quarter, the nominal price for bar-iron has been 10*l.* and upwards per ton, yet, that numerous transactions had taken place at a considerably less figure—some houses having gone down to 8*l.* per ton, particularly towards the end of that period—indeed, so uncertain have been the results of any decisions come to, that a price fixed one week has been departed from the next. From the appearances of the market, and the general aspect of the iron-trade, the meeting of Saturday came to the resolution of confirming the prices recommended at the previous meetings during the week, and a reduction of 2*l.* is the consequence; the prices declared being, at the works—bar-iron, 8*l.*; pig, from 3*l.* 10*s.* to 4*l.* per ton. How long these prices will remain steadfast, is to be seen; for, although there is at present no prospect of any unusually large orders at home, it is not unlikely that this sudden declaration of a fall may cause a brisk foreign demand; but, as fluctuations in prices have been the cause of all the embarrassments which the trade has hitherto suffered, it is to be hoped, the most influential of the masters will endeavour, by all the means in their power, to keep the trade to this price during the quarter, more particularly as it is known and acknowledged to be a remunerating one. The workmen in South Staffordshire are in a very unsettled state; strikes take place almost daily without any benefit to the men, and they generally return to their work in a sadly worse condition than they left it. Many of the puddlers who are out, it is stated, are engaged by some of the American houses.

NEW METHOD OF PRODUCING IRON.—The American papers inform us that a Mr. Green, of New Jersey, has made a most important improvement in the manufacture of iron; by this method, instead of using all pig-iron in the process of puddling, which costs \$35 per ton, he employs a large portion of ore, which costs only \$24 per ton, with a portion of pig-iron—effecting a saving in labour and material of 33 per cent., besides producing a better quality of iron. The process by which these advantages are obtained, is evidently a modification of Mr. Clay's patent for the production of iron direct from the ore by the use of anthracite, and is as follows:—six tons of pulverised iron ore are mixed with two tons of anthracite coal dust, and the whole poured in at the top of a reverberatory furnace upon the slag bed below; it is then to be worked into a loose granulated mass, and pushed to the furthest end of the hearth: four tons of cast pig-iron are then to be introduced, and, when at a white heat, it is to be heaped on the already half fused ore, and worked up into balls, to be treated in the same way as if the whole were pig metal. It is expected the process will enable every furnace to double its make, and, of course, to render the metal much cheaper.

COAL AND IRON MINES OF FRANCE AND BELGIUM.—The rapid progress that has been making of late years in France and Belgium, in railways and steam navigation, has opened a vast resource to mining operations. Hitherto these countries, although abounding in iron, lead, and other metallic riches, with extensive fields of coal mines, imported the greater portion of their supplies from the north of England and Wales, partly from a want of proper machinery to work them, and, secondly, the difficulty and expense of transporting the produce of the mines to Paris, and the most advantageous markets in the manufacturing districts of Rouen, St. Quentin, Elbeuf, Louvier, Sedan, Lyons, &c., where, by the emigration of some of the best workmen from Manchester, Leeds, Sheffield, Birmingham, Nottingham, Norwich, and other towns of England, as well as Glasgow, cotton and woollen manufactures, iron, &c., worked by them, and English made machinery, have sprung up in every direction, initiating the natives into the use of what they formerly looked upon as a chimera or impossibility. The number of English families that have taken up their residence, since the peace, both in France and Belgium (where wood and turf were the chief fuel), has been the means of causing researches to have been made for coal in various districts; this, added to the impetus given of late years by the French Government in the building of steam vessels, so as to compete, in a measure, with the progress making in steam navigation in the United Kingdom, has opened a vast field for excavating this rich resource to the mining interest. The great demand that is likely to be made for some years hence for both wrought and cast-iron in France and Belgium, for the railways now in progress or projected, has given a speculative turn to the holders of iron mines that never could have been foreseen twenty years ago. Steam machines are now at work in all the mineral departments or districts that were formerly looked upon as barren or nearly worthless, as the speculators in railways find that they must not only make the rails and machinery in the country, but also procure the means to do so from the hidden resources in the earth. This is, in a great measure, to be attributed to the extensive railway operations going forward from one end of Great Britain to the other, causing that demand for iron that it has nearly doubled in value within the last two or three years, so as to preclude it being exported to the continental markets, which now must depend upon their own natural industry and mining powers. The departments most fertile in coal are the Meurthe, Sambre and Meuse, Marne, Haute Marne, Moselle, the Rhine and North, in which iron also abounds, and also throughout Belgium, where very extensive works are at present in operation, chiefly under the direction of Englishmen. The late treaty between the latter country and the Zollverein, or monopolising powers of Prussia and Germany, which have materially reduced the custom duties on Belgian produce, will be the means of causing a surprising demand, both for coals and iron, for the railways now in progress.

IRON TRADE.—The iron-works in Merthyr Tydvil, and neighbouring districts, are carried on most vigorously—many having no rest, even on Sundays; water is also very plentiful this year—quite different to what it was this time last year. The price of iron is not so high as it was two or three months ago, yet, if it will continue as at present, masters and men may do well. Such has been the influx of strangers to all the iron-works, that cottages are becoming very scarce, and many are being built in every direction.—*Liverpool Mercury*.

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## COAL MARKET, LONDON.

MONDAY.—Price of coals per ton at the close of the market:—Adair's Main 13 6—Bate's West Hartley 14—Biddle's West Hartley 15—Carr's Hartley 15—Davison's West Hartley 15—Hastings' Hartley 14—Hollywell Main 15—Nelson's West Hartley 14 6—North Percy Hartley 14—New Tanfield 14—Original Tanfield 13 6—Old Ponton 13—Ord's Redheugh 13—Ponton Windsor 13 6—Ravenworth's West Hartley 14—Storment Main 12—Taylor's West Hartley 14 6—Tanfield Moor 16—Townley 14—West Hartley 14 6—West Wylam 14 9—Wylam 14 to 14 2—Wall's End Bewicke and Co. 15—Bell Robson 14—Gibson 15 6—Gosforth 15—Hotspur 14 2—Killingworth 14 2—Riddell's 14 9—Walker 14 9—Wharfedale 14 9—Eden Main 15 6—Belmont 15 6—Bradbyll's Hetton 17—East Hetton 15—Haswell 17 3—Hetton 17—Lambton 16 9—North Hetton Lyons 15 6—Pemberton 14 9—Russell's Hetton 16 3—Shotton 16 9—Stewart's 17—Hartlepool 17—Heugh Hall 15 6—Kellie 16 3—Trindon 16 6—Adelaide 16 6—Barrett 14 6—Barrington Tees 14—Brown's Deansy 15—Hartlepool 14 3 to 15—West Hartley Neitherton 14 6—Fox 14 6—Gordon 14—Seymour Tees 15 6—South Durham 15—Tees 16 6—West Tees 14 6—Cowpen Hartley 15—Derwentwater Hartley 13 6—Hartley 14—Llan-gennech 21—Lewis's Merthyr 21 6.—Ships arrived, 243.

WEDNESDAY.—Adair's Main 13 6—Bate's Hartley 14—Chester Main 14—Davison's West Hartley 15—East Tanfield 13 6—Hollywell Main 15—North Percy Hartley 13 9—Ord's Redheugh 13—Ravenworth's West Hartley 14 6—South Ponton 13 6—Taylor's West Hartley 14 9—Tanfield Moor 15 9—Townley 14—West Hartley 14 6—West Wylam 14 9—Wylam 14 to 14 3—Wall's End Bewicke and Co. 15 6—Brown's (unscreened) 13 2—Killingworth 14 6—Uppeth 14 6—Wharfedale 15 6—Eden Main 15 6—Belmont 16—Bradbyll's Hetton 17 to 17 3—East Hetton 15—Haswell 17 3—Hetton 17—Lambton 16 9—Lumley 15 6—Russell's Hetton 16 3—Richmond 15 6—Shotton 16 3—Scarborough 16 9—Stewart's 17 3—Hartlepool 17 3—Heugh Hall 15 6—Kellie 16 3—Adelaide Tees 16 6—Barrett 15—Brown's Deansy 15 3—Richardson's Tees 14 6—Seymour Tees 15 6—South Durham 15 6—Tees 16 6—West Tees 14 6—Allos 13—Cowpen Hartley 15—Hartley 14—West Hartley Neitherton 15.—Ships arrived, 92.

FRIDAY.—Adair's Main 14—Bate's Hartley 14 3—Chester Main 14—Davison's West Hartley 15—East Tanfield 13 6—Hollywell Main 15—North Percy Hartley 14 3—Ord's Redheugh 13—Ravenworth's West Hartley 14 6—South Ponton 13 6—Taylor's West Hartley 14 9—Tanfield Moor 15 9—Townley 14—West Hartley 14 6—Wylam 14 6—Wall's End Eden Main 16—Bradbyll's Hetton 17 6—Lambton 17 6—Russell's Hetton 16 6—Heugh Hall 15 9—Kellie 16 6—Eden Hartlepool 15—Richardson's Tees 14 9—Tees 16 9—West Tees 14 9—West Hartley Neitherton 15—Eden Hartlepool Claders 23 6.—Hetton 17 6.—Ships arrived, 12.



## MINERAL WEALTH OF NOVA SCOTIA—No. III.

BY A. GESSNER, ESQ., F.G.S.

The application of steam to navigation has placed the British colonies in a new light, and in none of them will its future advantages produce more beneficial results than in the North American Provinces. It is a fact of great importance to Britain that she possesses abundant stores of coal on both sides of the Atlantic Ocean, whereby she will always be able to maintain her steam navigation to the western world. The coal of Nova Scotia alone is sufficient to supply the British steam navy for many centuries, and also amply meet the demands of all the North American colonies. Indented with numerous bays and excellent harbours, with coasts abounding in fish, and with a climate and soil highly favourable to agriculture, forests for the supply of timber, and inexhaustible deposits of minerals, Nova Scotia, is destined to be of inestimable advantage to the mother country; but, before the province can rise to a level with her natural value, the monopoly of the General Mining Association must be removed, her resources must be opened to free approach and competition, and general improvements must be introduced. If the British Parliament and people complained of the monopoly of the sulphur trade by foreigners, surely the people of Nova Scotia have reason to complain of the monopoly, not only of their coal but of all the minerals of their country, by a British company, who have long since forfeited any claim they may have had to those minerals; and who themselves refuse to improve, or allow others to enjoy, the common bounties of Providence. But before a careful inquiry is made into the claims of that body to the minerals of Nova Scotia, and their mode of evading the payment of the royalty thereon, it is necessary to give a brief account of the coal-field and chief mineral deposits of the country, so far as present discoveries will allow.

Whether the productive coal measures of Nova Scotia are all contained in one continuous coal-field, or are situated in separate troughs, or basins, is a point which has not yet been satisfactorily established. No general survey of the mineral deposits has ever been made, and the imperfect knowledge acquired of them is derived from the unaided labours of a few individuals, who have made limited examinations for scientific purposes. If any discoveries have been won by the General Mining Association, they have been carefully concealed; for to disclose to the people the situation of any valuable mine, and then prevent them from participating in its advantages, would be as ungenerous as their present monopoly is unjust. It is not presumed, however, that any considerable number of the individuals who compose that body would tolerate acts of oppression, maintain an unjust claim, or seek to evade the payment of the established royalty; but it is evident that they have been misled by those in whom they have confided, and were the General Mining Association of London fully acquainted with all the transactions of their representatives, it is not probable that they would be any better satisfied than the people of the province, who blame the mass for the defects of its individual elements.

For descriptive purposes the coal region of Nova Scotia may be noticed in separate divisions, although it is not improbable that all the coal is contained in one large field of very irregular form. The coal district reaches from Chignecto Bay, in the county of Cumberland, along the north side of the province, to Northumberland Straits, and thence to the Gut of Canso. From observations recently made by the writer, it appears that there is a coal tract extending from Windsor, Falmouth, and Horton, along the south of the Basin of Mines, across the Shubenacadie, through the northern side of Musquodoboit, to the eastern shores of the province, thence crossing the Strait of Canso the same tract embraces part of the island of Cape Breton, where coal is abundant. The writer has explored the whole of the great coal-field of New Brunswick during the geological survey of that province, and found that it occupied an area of no less than 8000 square miles!!! The productive coal measures in that province appear most frequently in the interior of the country, while those of Nova Scotia occur on the shores of her bays and rivers, where they offer every advantage for mining operations. The New Brunswick and Nova Scotia coal-fields are united at the divisional line between the two provinces, and belong to one carboniferous period. The sandstones, shales, limestones, and occasionally thin seams of coal, with vegetable remains, appear at Horton, the most westerly extremity of the southern arm of the coal district; the same and similar strata appear at Falmouth, Windsor, Rawdon, Douglas, and on the banks of the Shubenacadie River; they also skirt both sides of the Basin of Mines, and appear at Gay's River, Musquodoboit, and in the unexplored country eastward. The eastern shores of Nova Scotia consist of strata belonging to the coal series. Strata of coal have been accidentally discovered near the River Philip, on the Tatmagouche road, at Onslow, Londonderry, and Parraborough. Almost the whole area of the county of Cumberland is a coal-field. At Springhill, in Maccan, there are several strata of coal, one of them is ten feet in thickness, and the coal is of a superior quality. Productive coal measures are also seen near the Maccan River and the River Hebert. On the southern side of Chignecto Bay the sea has worn away the shore, and presented to the geologist a beautiful section of the coal-field, which extends along the side of the bay to the distance of forty-five miles. The cliffs are perpendicular, and will average from 150 to 200 feet in height. During the recess of the tide, each stratum may be examined by travelling along the shore, which at many places is strewn with masses of coal, clay-ironstone, and fragments of fossil trees.

At the South Joggins, nineteen beds of coal have been discovered; a number of them may be seen extending from their outcroppings at the top of the cliff, downwards beneath the sea; the total thickness of the productive group at this place is about 1600 yards. Between the coal strata there are fossil trees of enormous size, standing perpendicular to the layers of rock, which dip to the south at an angle of 23 deg. The coal strata are from a few inches to five feet in thickness, and five of them may be advantageously worked upon the shore of the fine navigable bay.

The coal-field in the county of Pictou occupies an extensive trough or basin; the outcrop of the coal reaches along the country to the distance of four miles, and has been opened at the Albion Mines, near New Glasgow, by the General Mining Association, who ship from that place to the United States from 30,000 to 50,000 tons of coal annually, besides supplying a number of the provincial towns and villages. Ten valuable strata of coal have been penetrated by the workings at the Albion Mines; the united thickness of the beds of coal is upwards of seventy-five feet; the main coal band is no less than thirty-six feet in thickness—of this the company only work twelve feet, leaving twelve feet of good coal, and twelve feet fit for furnaces and forges. In 1839, six steam-engines, 100 horses, and 500 men were employed at those mines, and 48,000 tons of coal were exported to the United States, and different ports along the coast.

There are a number of situations in the vicinity of New Glasgow, where the coal might be advantageously worked; but, although the association have no title to that valuable mining district, they have effectually prevented other persons from sinking shafts—having confined their own operations to the Albion Works, the only mines they have ever opened in Nova Scotia Proper. There is also an extensive coal-field in Cape Breton, and the company, under an assumed claim, raise great quantities of coal at Spanish River, in that island. As the monopoly has prevented every kind of mining enterprise in the province, no survey or general exploration has ever been made of the coal-fields and other mineral districts, and the Legislature and people of the province had viewed the pretended claims of the association with indifference, until the price of coal became alarming, and the payment of the royalty, which forms the chief part of the casual revenue of Nova Scotia, was evaded. They have since grown, in some degree, alive to their interest and their rights; the claims of the company to the mines and minerals of the whole colony have been proved to be unfounded, and redress has been sought for at the foot of the Throne. The province contains about 15,000 square miles; of that area there are, according to an estimate made from private explorations, 2000 square miles of coal-field. The coal-field of Pictou will supply 100,000 chaldrons of coal for 1000 years, and Cumberland and Cape Breton will each, probably, afford the same quantity for the same length of time. Besides the deposits referred to in this estimate, there are others of which little is known, but, nevertheless, they afford evidence of the inexhaustible stores of the bituminous mineral contained in the colony.

On the coast of Chignecto Bay the tides rise upwards of fifty feet, at low water the beds of coal are uncovered by the sea. Upon these beds vessels from New Brunswick and the United States lie aground, and receive their cargoes, and as the shore can scarcely be said to be inhabited, no notice is taken of such depredations. From the situation of this coal upon the side of a navigable sheet of water, its proximity to the American and other markets, and the comparatively trifling expense that would attend the opening of mines, it is surprising that the coal should so long have been sealed up against the hand of industry, and the actual wants of the country. Petitions have been frequently presented to the Government, in order to redeem a part of the Cumberland coal-field, but the influence of the

association has hitherto rendered every attempt to improve the mineral resources of the country abortive. Having expended a large amount of capital in the eastern parts of Nova Scotia, they have no desire to work the mines of Cumberland, on the west, fearing that the trade from Pictou and Cape Breton would suffer from the exports made from Chignecto Bay—and thus a great source of revenue to the province, and profit to its inhabitants, has been shut up by the cupidity and selfishness of a few individuals. The steamboats that run into the bay are propelled by coal imported from Great Britain; their keels often pass within a few feet of the coal strata already mentioned, and from which they might be cheaply supplied; but the inhabitants of Nova Scotia have not been permitted to open the earth beyond the depth of the soil, and up to the present hour they are compelled to pay the price fixed by a single company for all the coals they consume. By withholding the coal from the inhabitants of any civilised country, where that mineral is found, the manufacture of iron and other metals is prevented, manufactures cannot exist, trade will languish, and general industry be greatly retarded. The truth of these remarks is fully proved by the present state of the province—a colony that will never thrive until her resources are liberated from the fetters of unyielding monopolists.

**THE GOLD MINES OF SIBERIA.**—The mineral riches of this vast empire of the north of Europe are but partially known to the more civilised portion of the continental population. The autocrat Nicholas is one of the largest holders of mines, particularly gold and silver, and is justly considered the richest monarch of the mineral kingdom. Russia, extending as it does from the northern to the southern poles, possesses more valuable mineral productions than any other portion of Europe; and all that is now wanting is, the introduction of machinery to work its valuable ores. The late Emperor Alexander did more to civilise this country than any of his predecessors: he gave every encouragement to the arts and sciences, by inviting to St. Petersburg some of the most scientific men of the day; and his brother Nicholas has pursued the same praiseworthy course: so that in less than another quarter of a century, a wonderful change will take place in this comparatively unknown portion of the globe. The gold mines of Siberia have, within the last few years, attracted the special attention of the Government, as they have increased in return in a most astonishing manner. They were at first worked by private individuals; shortly after, however, some extensive companies formed, in the mountains of Altai, a mining exploration on a large scale, which soon realised a very remunerating profit. The attention of the Imperial Government was roused by these rapid successes; and, to prevent the confusion, or depreciation, such working might produce in the mineral market, the concessions were subjected to more restrictions than formerly. Up to the year 1842, the working of these mines was granted in perpetuity, under the condition of an annual tax of 15 per cent. on their produce. After this, an ukase restricted the term to twelve years, which is not sufficient time to work the mine to advantage; after which period, it is to become the property of the state. A tribute of 90 to 30 per cent. is, besides the above, exacted, on the licensees; notwithstanding which, however, the working continues to give a very considerable profit. According to the official returns made in 1843, the mines of Siberia returned 40,000 lbs. of gold—being worth about 2,850,000*l.* It is expected that, in a very short time, the annual production will be on an average 8,000,000*l.* sterling. This is only on a small calculation, as the working population is not barely sufficient for the work required; as, during what is called a campaign, the number of days they labour does not exceed ninety, and that under the most vexatious tyranny of those over them. Coal seams are in abundance throughout the whole of Siberia, and, in fact, all over the Russian empire; and all that is wanting is, the introduction of English machinery to work them, and then the rich gold mines, by the aid of steam power, will increase in a most rapid manner in yielding their hidden treasure, when, no doubt, the Government will issue further restrictions and exactions towards the speculators. The Emperor has, hitherto, had very few mines worked on his own account; but, he is the absolute possessor of most extensive tracts, of what are reported to be extremely rich in mineral, and will be the most productive; and, from assays made by some of the most scientific mining engineers of Russia, England, France, and Germany, they are represented to be abundant in valuable ore. Although the Government does not enter into any extensive mining operations itself, it has, however, reserved the exclusive right over this branch of commerce, both in gold and silver. All the products are entered in the General Department of Mines of Siberia at Barndoul, in return for which the parties are given a receipt, or bill, payable at a few months' sight, in legal coin at St. Petersburg. The precious metals are afterwards conveyed to the fortress of this capital to be disposed of to melters, or specially licensed persons, who are obliged to give an account how it is to be disposed of to the authorities. The Government, so as to have an absolute control over the working of the mines, has appointed a certain number of officers of the imperial corps of miners in the different districts where they are being worked. Besides this, they furnish to the licensed parties a police force, consisting of detachments of cossacks, on the payment of a small remuneration. The generality of these mines are worked by those who have been exiled to Siberia for political offences and serfs, but the authorities are doing all they can to introduce machinery; and, even the Emperor himself is most desirous to ameliorate the condition of this portion of his wretched subjects, exposed as they are to, besides other sufferings, all the rigours of a most uncongenial climate.

**THE MECHANICAL PREPARATION OF CALAMINE AND GALENA IN UPPER SILESIA.**—Germany may justly be considered the birthplace of mining enterprise, and the inventors of machinery to work and wash her ores, which have been resorted to and improved upon by England and France, the two great mining nations of Europe, and also the new mineral world of South America. Many descriptions of the different methods of working the gold and silver mines of Mexico, Columbia, Peru, and Chili, and the washing of the auriferous sands of those countries and the Brazils are well known to the scientific world in general, but the resources of Silesia are very little known, nor the minerals it possesses. The washing of calamine and galena give employment to some thousands of the population, and, perhaps, no country has more excelled than Upper Silesia in the washing of the galena, particularly at Tarnowitz. In France, they have but few mines compared with those of Germany—consequently, they do not devote that attention to the working of any others but iron, which are at present the most profitable, in consequence of the rapid progress now making all over the continent in railways. In Belgium they are actively employed in not only advancing the trade in calamine and galena, but that of zinc, which promises to be one of the most prosperous ores for that country, as the mines of calamine belonging to the company of La Vielle Montagne, Engis, and the new association of La Nouvelle Montagne, will attest. Upper Silesia is making a vigorous strive to compete with other nations, and with the opportunities she has of machinery, coals, and mineral productions, there is little doubt but that she will be ultimately enabled to combat against the monopoly that is attempted to overwhelm her by the adjoining states.

**COLOSSAL MANUFACTURING ESTABLISHMENT.**—There is now in full operation at St. Petersburg, perhaps the most extraordinary, as well as gigantic commercial establishment which can be found in the history of the world, ancient or modern. Messrs. Eastwick and Harrison, the famed locomotive engine and boiler makers, of Philadelphia, having succeeded in obtaining the great contract for the construction of the locomotive requirements for the system of railroads about being carried out in Russia, have located themselves there—built a manufactory of immense extent, in which 3500 men are constantly employed, and in the conducting of which there are some curious features. To keep order among such a congregation—exceeding the whole population of a good-sized town, and consisting of English, American, Scotch, Irish, German, and Russian—a company of soldiers is kept on duty at the works, and a perfect police force, whose duties are confined to the establishment. Refractory men of every nation are discharged for irregular conduct, excepting Russian, and these (we suppose it is to inspire them with a love for their country and admiration for the *gentle Nicholas*) are, for the slightest offence, immediately tied up to the triangles, soundly flogged, and sent again to their work. It is but justice to Messrs. Eastwick and Harrison to say, that they have strongly appealed against this treatment, so peculiar to this semi-barbarous nation, but without effect. The plan of paying this enormous multitude is ingenious; on being engaged, the man's name is, we believe, not even asked, but he is presented with a medal, numbered: in the pay-house are 3500 wooden boxes, and, on presenting himself on Saturday night for his pay, the clerk hands him his money, takes his medal as a receipt, which is dropped into the box of its number. We are promised a plan of the works, with a more particular account of the methods adopted; and as the principles upon which such a gigantic affair is conducted must be interesting, we shall have much pleasure in laying the particulars before our readers.

## THE GREAT WELSH MINING CAUSE.

One of the actions pending between William Malins, Esq., the Earl of Dunraven, and Sir Robert Price, commonly known as the "great Welsh mining cause"—viz., that of the Earl of Dunraven v. Malins, was tried at the Cardiff Assizes, on the 14th inst., before Mr. Justice Colman and a special jury. Sir Thomas Wilde, Q.C., Mr. Chilton, Q.C., and Messrs. Williams and Richards, appeared on behalf of the noble plaintiff; and Mr. Cockburn, Q.C., and Messrs. Malins, Grove, and Benson, for the defendant.—The special jury were Messrs. Hollier, Fothergill, Wayne, Batchelor, Moggridge, Thomas, E. Morgan, L. Morgan, Williams, Wayne, Gape, and Yorath.

Mr. RICHARDS having opened the pleadings, Sir T. WILDE stated, that he had the honour, with his learned friends, to appear for the Earl of Dunraven; the action was brought to recover compensation for alleged breaches of covenants, in a lease granted by the plaintiff to the defendant. The lease was granted to work iron, coal, clay, and other minerals, in a workmanlike manner, and the charge was, that defendant, by his misconduct in such working, had inundated the mines and some adjoining ones, also worked by Sir R. Price, under lease from the plaintiff; and that, in their present state, it was nearly impossible to work or win coal, and the plaintiff thereby lost his dues; that they were now in such a state, that unless Mr. Malins was compelled to work them, no other tenant would do so, as great expense must be incurred.

The following is the order in which the witnesses were called:—*First day:* Messrs. James Cadman, mineral surveyor, Pontypool; William Habakkuk, surveyor, Nantyglo; M. G. Stewart, colliery viewer, Swansea; J. Petherick, Llynvi Iron-Works.—*Second day:* Messrs. C. J. Hampton, Maesteg Iron-Works; William David, mineral agent, Cambrian Iron-Works; A. O. Davies, mineral surveyor, Newbridge; George Martin, mineral agent, Dowlais Iron-Works; Henry Kirkhouse, mineral surveyor, Neath; Daniel Howell, collier, late in Messrs. Malins' employ.—*Third day:* Frank Forster, Esq., civil and mining engineer, Bangor, North Wales; Prof. Sopwith, F.G.S., London; and Dr. Buckland, Christ-church, Oxford.

A full report of the evidence, being merely a dry matter of detail, and having constant reference to maps, plans, &c., is entirely unnecessary; the general evidence went to show that, in working the mines, the defendant not only did not work them according to the terms presented in the covenants of the lease, but also, that they were worked in "an unmineral-like and injudicious manner."—Dr. Buckland's evidence excited much interest; he said that, if the theory attempted to be established by Mr. Malins were a correct one, he should have to recast a whole chapter in the *Bridgewater Treatise*, and that the conclusions he had arrived at, after thirty years' close application, must be all wrong; but which he was by no means prepared to admit, having carefully examined the property in dispute.

Mr. COCKBURN, in a masterly and able speech of three hours, addressed the jury for the defence, but declined calling any witnesses, when his lordship summed up, and the jury, after one hour's deliberation, returned a verdict for the plaintiff—damages *£*4, which, being in an action for breach of covenant, carries costs. The witnesses on each side amounted to upwards of sixty, and the action leading from the same circumstances, Malins v. Sir R. Price, was made a *remand*, and several of the agents have received notice to appear at the next Glamorganshire Assizes in behalf of Sir R. Price.

**ROYAL SANTIAGO MINING COMPANY.**—(From a Correspondent.)—The declaration made at the meeting last week by the chairman and directors of this company—that there was only a dividend of 1*l.* 10*s.* per share to be paid on the 7000 shares issued by them—has caused a general dissatisfaction among the shareholders, as they were led to believe that the company was in an improving state; which is the case, as this is one of the best mining speculations, and yields more than any other of the transatlantic enterprises. The query is this, why should our directors keep back 8000*l.* which they say is placed to the reserved fund: thereby increasing that item to 47,000*l.*; and they now come forth to pay our dividends with only 10,500*l.*, when we ought to have had at least 2*l.* to 2*l.* 10*s.* paid on each share, which would have left the appropriated reserved fund at 39,000*l.*, which is quite sufficient to meet any contingencies, or demands, that may arise upon the funds for legal proceeds that may be instituted by the Cobre Company, which, it appears, has more brass than gold or brains?—Sir Isaac Lyon Goldsmid, one of the directors, not wishing to offend in a direct manner any of the hon. gentlemen, right and left of him, thought, that so small a dividend did not, in his opinion, meet the approbation of the meeting: and he trusted that the next dividend would be declared more satisfactory to all parties. From observations made by several of the shareholders, there is far from being a unanimity, or cordial feeling, evinced at the manner the funds of this company are appropriated, and all they want is *Justitia et economia*.

**THE MINES OF SPAIN.**—The mineral riches of fair Iberia, one of the finest countries in the world, are but little known, having been the victim for nearly the last forty years to the persecutions of a bigotted monarchy, and all the horrors of the priesthood, the inquisition, and the invasion of the merciless armies of Napoleon; but, of later years, the sanguinary civil war, that destroyed all confidence and the impetus of enterprise, has ceased. Spain, which was once the mistress of the treasures of the mineral kingdoms of Mexico, Columbia, Peru, Chili, and the whole of South America, like Rome of old, is reduced to the lowest state of poverty and classification among the nations of Europe. She has now only to depend upon her own resources and industry, to rise from the degraded state into which she has fallen. The cry of civil war should, as it will no doubt, shortly turn into the welcome cheer of peace, and ere long it is to be hoped, that she will once more become what she formerly was—an enterprising nation. The mines of Spain are unbounded, but only want the hand of industry and machinery to work them; silver, iron, copper, lead, tin, and other ores, are found in abundance in the different provinces, both north and south; in her magnificent cordilleras, there are also some valuable gold mines, but particularly quicksilver, among which must be named the celebrated mines of Almaden, now working by Englishmen, and which are a sort of freehold to the house of Rothschild, and furnish the mines of Mexico and South America the means of amalgamating their ores. The iron and steel manufactures of Toledo are renowned all over the world for their superior quality. This country has opened a wide field for British enterprise and speculation. Railways will shortly be established from one end of the kingdom to the other; thousands of her peasantry will be put into employment, in working her extensive coal mines, of which few countries are more abundant, and laying down the lines that are now in progress. A new era is rapidly arising for that gifted country of Nature, the most fertile and most salubrious of any in the world; the fetters of superstition and ignorance will soon give way to enlightenment and civilisation; her nearly deserted villages and uncultivated fields will be populated, and yield forth their golden harvests; her hidden mineral treasures will be resuscitated from their long embowelled secrecy from man, by the hand of enterprise and industry of the nineteenth century.

**EXPLORING THE RIVER AMAZONES, IN SOUTH AMERICA.**—This expedition occupies the attention of the scientific body in Paris, as it is undertaken by French engineers, who expect to reap a good harvest. The object of this speculation is, to explore the River Amazonas, under the sanction of the Bolivian Government, from its mouth to the foot of the Cordilleras, so as to make a survey, and see how far it will be practicable to render this magnificent river navigable, and open a free communication into the heart of southern America with the Atlantic Ocean. It offers every facility for the enterprise, as vessels can already penetrate up for 1500 miles; and it is only a distance of 180 miles that will have to be overcome, part of which must be done by blasting. A squadron of five steamers has been contracted for at Glasgow for the expedition. Several eminent French engineers have already sailed for Bolivia, and are to descend at the River Beni, and meet the steamers at the cataracts, that being the point agreed upon where the commission will unite to form their plan of exploration, and the works intended to be executed by the Bolivian Government. Should this grand scheme be successful, it will be the means of opening a wide field for mining enterprise, as Bolivia is one of the richest mineral republics of that vast continent; but, being a central state, it has not the means of a conveyance for shipment, unless round Cape Horn, and that at an enormous expense. The opening of the River Amazon, the finest in southern America, will cause a wonderful increase in commercial transactions with that country nearly unknown to Europeans.

**AUSTRALIAN LEAD ORE.**—A quantity of lead ore, of immense richness, has been received in Liverpool from Sydney, New South Wales. It contains 70 per cent. of lead, and silver at the rate of about 1*lb.* to a ton of ore.—*Liverpool Times.*—[The quality of this ore does not seem to us to deserve the eulogy implied in the term immense riches; 70 per cent. of lead is the ton of ore, and 16 oz. of silver to the ton of metal, is a produce of ordinary occurrence.]



## Original Correspondence.

## ON THE CALCINATION OF SULPHUROUS ORES.

SIR,—I have been much interested in the perusal of Mr. Crowe's account of the process of copper smelting in Norway, and as he invites others to afford information upon the subject—and I feel assured you are always ready to find space in your valuable paper for such matter as may appear worthy of insertion—I take the liberty of intruding upon you with a few observations relating to the calcination of copper and other ores containing sulphur. The *Mining Journal* has on former occasions teemed with communications from various correspondents, pointing out the importance of improving our smelting processes, and more especially has the question of becoming our own sulphur suppliers been frequently agitated, and still the copper smelters and others go on poisoning the country with their noxious gases without having yet applied a remedy, although, if I mistake not, your columns contain one that appears, in my humble opinion, likely to be efficient, and, at the same time, inexpensive in its application.

Turning to the *Mining Journal* of 19th August, 1843, I there find the specification of a process patented by Mr. Rodgers, for the separation of sulphur from mineral substances, which, for simplicity and truthfulness to Nature, cannot be surpassed; for, as Nature works in mineral veins, by converting the sulphurets into oxides, or gossans, and native metals, so Mr. Rodgers's process would carry the same principle into the smelting-house. His plan is to throw a jet of steam upon and over the red-hot ore during the process of calcination, which it materially assists by the double decomposition and affinity of the elements of the water and of the ore—the hydrogen of the water combining with, and carrying off, the sulphur, and the oxygen combining with the liberated metal, and forming an oxide of the same metal. There can be no reasonable doubt that, by throwing steam from time to time over the red-hot ore, either of copper, iron, or silver, the sulphur will be more readily separated and converted into sulphuretted hydrogen gas, and the metal will not only be oxidised, but also partially reduced to the metallic state—silver, probably, wholly so, from its less retentive affinity for oxygen. When we consider the number of operations in the copper smelting process, and that by the use of the steam all the sulphur may be expelled, if required, at one calcination, it does seem surprising that our copper smelters have not at all events tried it; and yet I understand, upon inquiry, that such is the case, and that from want of means or connections on the part of the patentee, the patent is, as it were, dormant. The capabilities of the process, however, do not rest here. It may be used for procuring sulphur or sulphuric acid, which may be obtained from the sulphuretted hydrogen by means of existing processes or known chemical properties, one of which I will briefly state. By bringing the sulphuretted hydrogen gas in contact with sulphurous acid gas, the two noxious gases mutually destroy each other, and in their room sulphur and water are produced. This principle was, I perceive, patented by M. Duclos, but he does not say where his sulphuretted hydrogen is to come from: this is supplied by Mr. Rodgers. Besides the application of this principle to the production of sulphur, I have no doubt that it might be advantageously used in all works which emit sulphurous acid gas to the injury of the surrounding neighbourhood, and I would propose to do this by passing into the flue of the furnace (which flue might be somewhat modified to suit the circumstances) a stream of sulphuretted hydrogen gas, to be obtained by passing steam over iron pyrites in a separate furnace. Let the proportions of the two gases be properly regulated, and not only would there be no escape of noxious vapour, but a useful product would be obtained, and so, upon the principle of "setting a thief to catch a thief," I would send one gas to catch the other, and convert them both into useful members of society.

By the use of a jet of steam in the calcination of silver ores (sulphurets) the silver may be reduced at one operation to the metallic state, because silver does not retain oxygen like other metals. That Nature has so worked in forming the native silver found in different veins may be proved by a most beautiful experiment. If a piece of sulphuret of silver be heated in a common muffle, and a jet of steam be thrown upon it, the silver is brought out in beautiful metallic branches, similar to the native silver of the mines. In this way many splendid specimens have been produced in Germany, and are dispersed in the mineralogical collections of that country.

I recommend the use of steam to the Norwegian copper smelters, as peculiarly applicable for such ores as described by Mr. Crowe, and I would also hope to see it at length find favour in the eyes of our own countrymen. I join in the wish of Mr. Crowe, that others may impart such information as they may possess upon a subject of much importance, which cannot be better done than through the columns of your useful Journal.

London, July 14.

METALLIFEROUS.

## IMPROVEMENTS IN PRACTICAL MINING.

SIR,—Mr. James Rowe's letter is well worthy of the space it occupies in your last Journal; one would have thought you might have found room for such valuable information in an earlier Number. Some twenty years ago there was, and may be now, a machine on the same principle on the Bude Canal for the purpose of lifting the boats up an incline plane from one part of the canal to another; the vessel containing the water, descends through a perpendicular shaft. I know of no place in Wales where a machine of the plan described by your correspondent for bringing coals to the surface; much pains are often taken to get the coals up to the railway that leads to the drawing shaft. For the last twenty years, I have advocated the plan of employing the spare power of the pumping-engine to lift water to work water-wheels for winding, crushing, stamping, &c. Twenty years ago, pumping-engines were lifting about 50 millions, when steam-whims (winding-engines), were doing only 5 millions duty—as far as I know, the economy of the plan requires proving; although, some years since, I heard of an attempt being made in Cornwall, but have never heard the result. I hope, however, ere long to see some of your numerous correspondents taking up the subject, as well as what is doing in the different parts of the mining world to economise the working expenses; for the present, I will not intrude further on your valuable space.—DIENW: July 16.

## MINING IN GALICIA, NORTH OF SPAIN.

SIR,—In your valued Journal of the 12th inst., you announce a forthcoming new company to work tin lodes in Galicia, under the auspices of a Baron Morat, a Frenchman, who has found it already very profitable to cater for the English speculators; of this you may be assured, by inquiry of the Asturian Mining Company, Austinfriars, and also of a Parliamentary Agent, in Parliament-street, whose name, for the moment, has escaped me, but in my next you shall have both his name and address. You say *auspices*—are the British public to understand (for to the French he is well known) that this Louis Tranquilla Morat is a capitalist, a man of such known integrity and veracity, as to enlist themselves under his fostering *auspices*—bless the word. You often remark, Mr. Editor, "look before you leap." This auspicious Baron, I have heard, is an ex-banker of Oviedo, late in the office of M. Adouin (the well-known banker of Paris), and may also be heard of as formerly in the service of M. Aguado. How delighted the shareholders must be to have such a protective adjunct and mineral surveyor to their intended society. No person who ever read Humboldt, ever doubted the presence of tin in Galicia. When the direction and prospectus are before the public, it is not improbable you may hear from me again, inclosing some admitted practical reasons for the great doubt of working tin mines to a profit in Galicia. It is a jobbing age, Mr. Editor, but it is an accepted maxim, when persons obtrude themselves on the British public as the patrons of a society, that they should appear with a high character and standing. Louis Tranquilla Morat can have no doubt of the identity of the writer of this letter, for which I hope you will permit a place in your independent Journal. A LONG RESIDENT IN ASTURIAS.

Brighton, July 15.

## THE COAL MINES OF FRANCE, AND METHOD OF WORKING.

SIR,—The principle on which the coal mines of France are worked is not generally known in England; the following may not be uninteresting, therefore, to your numerous readers, as your Journal is the great medium of mining intelligence from all parts of the globe. First of all, the means of conveyances, we have three:—1. The carriage on the foundation of the galleries; 2. On the lines of tramroads in iron or wood; 3. By navigable galleries. On the first system, man is employed on the surface of the galleries as a porter or carrier, dragger and wheeler. All these means have been greatly deprecated by M. Gervoy; the carrying of loads is disappearing daily, according to the progress that is made in the mines. The average load per man varies from 40 kil. to 70 kil., but generally only 50 to 60 kil. (100 to 112 lbs. English). The distance gone over with the load is often as long as 6000 metres: the average distance, however, is about 4500; the carrying on the back is generally only for a short distance, less than 100 metres. The dragging in the mine galleries still exists in many parts of France:

sometimes it is done in a sort of tub, and, at others, in wicker hampers. These slide along an iron rail; the load generally is about an hectolitre and a half, or 120 kil. (240 lbs.); this varies from 10 to 150 kil., according to the roads. The distance ran is about 6000 metres: when the galleries are good, children from sixteen to eighteen years of age can work without inconvenience. The dragging is longer than carrying, being from 150 to 200 metres and more; the wheeling, or barrowing, is worked upon wooden lines, divided into stoppages, or relays, from 20 to 30 metres: the load is 160 lbs., and the distance ran 8600 metres. In a great number of the mines in France, horses are used for dragging; their utility varies much more than that of men, because it is greatly influenced by the state of the galleries, the temperature and ventilation, &c. The two latter elements in particular have a great effect upon them. In mines that are warm and badly ventilated, the horses become so rapidly depressed that they cannot use them; on the contrary, the other way they are very serviceable: the load is about 500 lbs., and the distance 7000 metres. In mines where the roads are good, and strong horses are used, the load is 1000 lbs., and the distance 5000 metres. In some mines the wooden rail, or tram, is used, but the iron rail is now generally adopted for the lines unless there is too much water to corrode them, and then we have wood. The thickness of the iron rails is according to the weight they have to support, and the waggons differ in shape, particularly in the metallic mines; the inclination of the iron rails ought to be calculated according to the size of the mine. With the cars that are drawn by men the descent is so made that they run down by themselves—the man placing himself behind. In working a long gallery, so as to lay down an iron line, great attention should be paid, as they then can judge which will be most suitable for horses or men.

The following results are made from a number of observations, selected in the different mines of France, Belgium, and Germany. In general, the carrying is done by children, from twelve to sixteen years of age, in narrow passages; but, when men are employed, a wheeler can convey 455 hectolitres to the distance of thirty metres, each hectolitre being 160 lbs.; they work by relays of thirty metres, therefore each one makes 260 trips. A good wheeler can in the course of a day work a task and a quarter, and even one-half, varying from 1,365,000 to 1,638,000 kil. to 1 metre. On iron rails, having at least 1000 to 1200 metres in length, and an adequate descent, each horse can drag 8000 lbs.; but in narrow lines, and in mines that are warm or badly ventilated, the load never exceeds 2200 lbs., and the distance 400 to 500 metres only. The working of the mines in this country have, however, been greatly improved, by the introduction of the English method. The system of navigable galleries is only employed in a few mines, the first application of which was made in the mines of Worsley, near Manchester, in the middle of the last century. Since that period it has been introduced into Upper and Lower Silesia, and in a few mines in the environs of Clausthal and Hartz, in Germany, but not on so large a scale as at Worsley, where the distance is 15,800 metres; the lower galleries are 18,000 metres, from which the coal is raised to the middle stage by means of steam-power, and the boats hold from nine to ten tons, or 2500 lbs. of coal, which six men unload with the greatest quickness, on an average of forty boats in the hour, being 360 tons, or 125,000 lbs. per man. The miners work laying down on their backs, with their feet against the gallery, which method is less fatiguing than any other. In the navigable subterranean passages of Hartz it has been found that boats holding six tons, and going the length of 3000 metres, one man can do the work of two horses on the common road. Navigable galleries require greater caution in their formation, and a deeper cutting, than iron rails; they are, therefore, not generally adopted, unless they cannot introduce horses into the mines, as, if men were to be employed on the iron rails, navigable canals are the most advantageous. But for distances from 300, 500, to 600 metres, which is the general length, the use of horses is more suitable, as the loading and unloading is saved, and a more rapid conveyance gained; but in short distances men are more serviceable, as they can go quicker. It unfortunately happens that fire-damp prevails too frequently, not only in the mines of France but Germany, and a commission of scientific men have this subject under their serious consideration; for, although the Sir Humphry Davy lamp has been found a most valuable preservative, accidents are, notwithstanding, continually occurring, although every improvement that can be made is made in the system of working our mines.—A CORRESPONDENT: Liege, June 24.

## THE MINERAL PRODUCTIONS OF BELGIUM.

SIR,—The *Mining Journal* being the great medium of communicating information relative to mining operations in Great Britain, America, and the different states of Europe, it will, no doubt, be interesting to your numerous readers to have some little idea of the progress of mining enterprise in this country; I, therefore, transmit you a concise official report of our mineral productions. The rapid advancement that is making in England, France, Germany, and the whole of the north, as well as the south, of Europe, in railways and iron steamboats, has caused a most extraordinary demand for that article both in England and this country, which are the most favoured by Nature for its abundant production, added to an unbounded supply of coal. The province of Liege has, at this moment, no less than twelve large iron foundries constantly at work. In consequence of the extensive demands that we have received for the furnishing of rails to the different companies now forming in Germany and in France, the whole of the iron-works in Belgium are at present in the greatest activity, which, unfortunately, has given the masters the ambition of rising the prices nearly to those of England, but this state of things cannot last long, the railway mania must eventually subside, when the price of iron must come to its proper level; but, in the meantime, these exorbitant prices are most prejudicial to commerce in general. This is more particularly felt in all the minor manufactures of iron wares, nails, &c., which prevents a fair competition with other countries. The nail manufacturers of Liege have had a very numerous meeting, petitioning the railway directors of the line to Antwerp to reduce their charges on merchandise, so that they may compete with those of Charleroi, who have a reduction of 75 per cent. over the canal traffic. They have also petitioned Government to enter into negotiations with the Hanoverian Customs, which, by the new tariff have excluded our nail trade, and that a regular steam communication be established between Antwerp and Hamburg, for the transmission of our productions to the more northern parts of Europe.

Zinc.—This branch of industry is one that has made the greatest development in the province of Liege for some years. For thirty years this was monopolised by one firm, and it did not exceed, on an average, more than 2,000,000 lbs. per annum in 1836, it doubled in 1837, and tripled in 1838. The Society of Cornphalia, that of Prayon called La Nouvelle Montagne (the new), and M. de Lamine, at Ampsin, have successively risen up within the last fifteen years against that of M. Mosselman. In 1837, the successors of the latter converted it into a family association, under the name of the Vieille Montagne (the old). There is a very large concern at Moresnet, where the working of calamine is carried on to a great extent. The quantity of zinc annually manufactured by the different societies in this province, which, ten years ago, was only 1000 tons, is now 14,000,000 lbs. per annum, of which the Society of the Vieille Montagne furnishes the greater proportion. The manufacturing of zinc, and the extraction of calamine in this district, employs 1200 workmen. This is a branch of the greatest importance to Liege, as it is the means of causing constant work, and a great demand for coals and cast-iron. The annual consumption of coal for these establishments alone is 46,160 tons, for the casting of iron 1,000,000 lbs. (500,000 kils.), and forging 160,000 lbs. Besides this there are 14,000,000 lbs. of ordinary stone coal from the province of Namur, part of which is used by the boats running between the Meuse and Ourthe. Of the 14,000,000 lbs. of zinc annually manufactured, that is to say two-thirds, or 4300 to 4400 tons are exported to France in its rough state by water conveyance; there remains, therefore, about 5,100,000 lbs. in this country—viz., 800,000 lbs. in a rough state, and the remainder to be sheeted, the loss on which is about 300,000 lbs.

The average quantity of sheet zinc consumed annually is—

Belgium .....	1,600,000 pounds.
Holland .....	900,000 "
Hamburg .....	200,000 "
North America .....	1,100,000 "
Brazil, &c. ....	200,000 "

Total .....

After undergoing various changes in price, in its rough state, it has been for some years at 2l. 4s. per 100 kil. (2 cwt.), and leaving a good profit. Sheet zinc is worth 10s. to 12s. more than the other, and leaves a large profit to the manufacturer.

Lead.—The working of this metal, which had been for some time abandoned, is resumed with vigour and success throughout Belgium, as a great many extensive establishments have entered into contract for furnishing the lead ore; the quality is good, and can be well substituted for the leads of England or Spain.—In Copper there has been very little speculation, in

consequence of the export duty that has hitherto existed, but Government having reduced it, there is no doubt it will again be resumed, as we have throughout Belgium some valuable copper mines, but they only want working with spirit.—Our Coal mines are now in active work by steam machinery, as very extensive contracts have been entered into with the French and Prussian Governments, as well as for locomotives, as we can manufacture them much cheaper than you can in England; it must be remarked, however, that our best workmen are imported from Great Britain, and are fully developing their industry among us.—E. B.: Liege, July 9.

## ASSAY AND ANALYSES OF MINERALS—No. III.

## ASSAY OF COPPER ORE FOR SILVER.

400 grs. of copper ore.  
600 grs. of litharge.  
Flour-spar } each a moderate ladle  
Lime  
Borax  
Tartar, Nitre.

a good ladle full of each, and about one ounce of iron nails, in order that the sulphur invariably found in copper ores may attach itself to it, and form a sulphate of iron—the poorer the ore, or, more properly, the greater quantity of copper and sulphur the ore contains, more lead or litharge is required. When the button of lead is obtained, proceed by the ordinary process of cupellation.—J. T. C.

## DEVELOPMENT OF MINERAL WEALTH IN IRELAND.

The construction of railways in Ireland, independent of the immediate advantages in the shape of employment for the half-starved labouring classes, and outlay of capital in various ways, and of the more remote results in the improvement and extension of trade, commerce, and agriculture, by the facility of transit of goods and persons—to say nothing of the social and other advantages of unlimited intercourse between the inhabitants of the different provinces of that country—will have a most important influence on its prosperity, in respect to a full development of its riches in the mineral department of Nature's most useful productions, and which were heretofore of little benefit to the nation, or to individuals, by reason of the difficulties, and more frequently the want, of conveyance, by either land or water carriage, in the mineral districts. Of the existence in the interior of the country of beds of the different species and subspecies of that combustible mineral, so essential for man's general uses, coal, there is as sufficient evidence as there is of the great difficulty, or rather impracticability, of applying it to those uses, for want of modes of conveying it from the places where it can be procured to those where it would be consumed. In like manner, rich ores of copper, lead, and silver, are to be found in several of the mountains of the interior; as are also quarries of a beautiful kind of marble, of granite, and of fine slate; but all rendered unavailable to national or individual benefit, for a like reason. It is obvious that, in those districts, mines or quarries cannot be worked with advantage, for want of facilities of transit for the article produced from them, and, therefore, do we consider the constructions of railroads one of the most important advances towards national prosperity in Ireland. Some years since, when the English capitalists were tempted, by prospects of unbounded gain, to speculate in South American mines—the difficulty of transit, by land, of the material from which was infinitely greater than would be that from mines in the interior, and the mountainous districts of Ireland—a diversion in favour of similar speculation in the last-mentioned country was made by a few capitalists in London, and a company was formed, and successful experiments made in working mines and quarries on the sea-coast, and in the vicinity of navigable rivers in the south-western districts; but, beyond such localities, every mine or quarry opened was found to be unproductive of profit, chiefly, if not altogether, for want of facility of transit. The copper mines of Berehaven, in the county of Cork, and known in England as the "Allibies Mines," yield one of the richest ores coming into the Swansea mineral market; but, rich and abundant in the lode as that ore is, it would be divested of a considerable portion of its value to the proprietors of the mines, had it not the important advantage of being procured in the immediate vicinity of water-carriage; in fact, they are worked on the very brink of the sea. In the same district, a few miles distant from the sea, and remote from land or water conveyance, ore, as rich and as abundant in the lode may be found, but want of the means of conveyance from the mines, preclude the possibility of mining for them with profit commensurate to the outlay.

As we have touched upon the subject of mineral productions, in reference to the national and particular advantages to be derived from the construction of railroads in Ireland, we cannot forbear allusion to the discovery of an extensive bed of manganese, made a few years since in the vicinity of Glendore harbour, in the county of Cork, and since partially, or on a very limited scale, worked by some gentlemen having an interest in the land, a few feet beneath the surface of which it is found in apparently inexhaustible abundance, and in a widely-extended space. The locality of this bed of a very valuable mineral possesses the advantage of being within half a mile of a shipping pier, in a safe and commodious harbour, and yet no capitalists have ventured to speculate in an extensive, and, as doubtless it would be, a profitable working of the mine. In 1843, when in the progress of a tour through that mining district of the county of Cork, we visited this manganese mine: there were prepared for sale about one thousand tons of the mineral. It is taken out of the mine in detached blocks, or masses, of an grotesque and fantastic formation as flint stones present when quarried from out the chalk cliffs, but greatly larger in size. To prepare it for market, it is merely crushed, or granulated by means of the hammer in a mill, to about the size of small gravel, and then purified from extraneous matter by passing a stream of water over it, and, when dry, sifted into sizes, and separated into heaps, according to its sizes. One of the proprietors informed us, that some hundred tons of it had been shipped for Liverpool, but the price per ton it was likely to bring he could not then conjecture. Its quality, he said, had been tested, and declared to be equal to the best as yet discovered in England, and any persons interested may form their own opinion from personal inspection of a sample which lies at our office. In the neighbourhood of this manganese mine is a slate quarry, from which is procured slate, of a quality not inferior to that of the Bangor slate. This quarry is also worked on a small scale by a private individual, but to the extent it is worked it is profitable. Some miles further on the sea coast are the Audley copper mines, but litigation between the Audley family and the English company that worked them has, for a time, suspended the work. Copper mines and slate quarries have been opened in other localities in this district; but want of capital to extensively and effectively work them is the universal complaint, although many of them have no convenience of either land or water carriage. The projected continuation of the railway from Cork to Bantry, and passing through this district, so abounding in mineral productions, will, however, if carried into effect, lead to a more extensive embarkation of capital, in working both its mines and quarries. The manganese mine at Glendore can, as we think, scarcely fail to attract the attention of capitalists, should it be the desire of the present proprietors to admit into the concern a sufficiency of capital to work it effectively; and here it may not be amiss to observe, that manganese, which has been for a long time used alone in the making of glass and pottery, has, since the discovery of chlorine, which is procured by distilling a mixture of black oxide of manganese with muriatic acid, become of more extensive utility, and is, of course, enhanced in value. In the neighbourhood of Exeter, the best in England is reported to be found; but we are assured that the mineral discovered at Glendore is equal to it in quality, and we know it to be of inexhaustible abundance there, and more easily and at smaller cost procurable from the mine, and less expensive in the preparation, and in the shipping it for the Liverpool or other mineral market.

## MINE ACCIDENTS.

Colliery Accidents.—Singular Superstition.—In South Staffordshire, in cases of fatal accident, every man at work in the mine leaves it until the inquest has been held, and the body buried: in some instances, where the sufferers are buried deep under a fall of coal, every effort is made to rescue the bodies, but no regular work is done; and, although weeks may elapse before the remains are discovered, the pit is left deserted of its usual occupants—a mysterious dread preventing old and young from venturing into the mine: the moment, however, the body is consigned to its last resting place, all the workers return to their usual occupations. It is not surprising, considering the occupations and habits of miners, and the solitude and darkness in which a great portion of their lives is passed, that a superstitious dread should possess them on the occasion of any of the fearful visitations to which they are subjected—the impression on their minds being, that the spirit of the deceased haunts the scene of his labours until his mortal remains have been consigned to the grave.

Bloxwich.—T. Wood fell down a pit and was killed.

Wheat Betsy.—W. Merrifield was sadly injured by an explosion.

Plymouth Iron-Works.—A tremendous explosion took place here on Saturday last—fortunately, without loss of life, all the men having left off work: it was suspected that fire damp existed in one of the levels—in consequence, fires were lit at the mouth of the furnace, with a view of consuming the foul gas, which, by throwing water down the air holes, would be driven towards them. The water was thrown down, but the gas existed in such a quantity, that, instead of being gradually consumed, it took fire, and, rushing back with great force, tore up trams, plates, and various other impediments to its onward progress.—Cambridge.

Tredgar Iron-Works.—Great consternation was produced at these works a few days since, by the giving way of the embankment of a large reservoir, used for working the extensive forge and rolling-mills; no lives were lost, but the destruction of property must have been considerable.

Clay Cross.—G. Cooper was killed while following his employ here.

Bidston.—Two miners were killed through extreme carelessness, while employed superintending the operation of blasting in a quarry.



## THE SCIENCE OF GEOLOGY.

The study of the formation of the earth, which, from the earliest periods of history, has occasioned so much controversy, arising from the errors conceived and promulgated, is now become a science intensely interesting in its investigation, and of the utmost importance to the social happiness of mankind. The great and general truths of the science of geology have been long arrived at, and are now fixed on so firm a basis, and are so self-evident to the minds of all who delight in a careful search into the wonders of Nature, that no frivolous contradiction or opposition is offered to them; but still, in many of the details, or subdivisions, of the science, in many of the causes which produce certain effects, a variety of opinions are yet held, and opposing theories thus promulgated, the correctness of which can only be established by facts; and, as thus facts are of such paramount importance, in confirming the great truths of geology, it is pleasing to know that there are men, who, having given their whole mind to its study, will receive nothing but what can be relied on from actual witness of the phenomena; such a man is Mr. Elias Hall, of Castleton, who has, for near sixty years, devoted his mind to this one great object, and more particularly as regards the geology of the counties of Derby, Yorkshire, Lancashire, Cheshire, and Staffordshire; he has endeavoured so to investigate the general phenomena of the strata, and practically to illustrate all that had been previously written on the subject, as to leave no doubt on the mind of those who are interested therein.

We have been favoured by this gentleman with his manuscript, from which a paper was read at the meeting at Cambridge of the British Association for the Advancement of Science, some extracts from which will doubtless be acceptable to our readers. As an introduction, he observes, "The science of geology being the knowledge of the earth's structure, as far as lies open to our observation, and the ancient history of the globe one of the most curious subjects that can engage the attention of enlightened men, while to the geologist the changes which the surface of our earth has undergone are of the most important and interesting nature, his mind is naturally led on by a desire of fresh knowledge, is not content with a superficial view of their changes, but his imagination receives additional vigour and activity, when he enters on a new field of discovery; he delights in tracing the nature of the agents that have once been active, in ascertaining how far they are now operating, and in anticipating the results of their continuation. It is necessary, therefore, to exercise the greatest caution, lest the ardent imagination of the geologist should lead him into error, and to draw false conclusions, for results promulgated to the world upon data not sufficiently accurate, must not only create confusion, and generate numberless errors, but must ultimately tend to prejudice the author in the scientific world." We give some extracts from his description of the carboniferous limestone rocks of Derbyshire and Lancashire, as a specimen of the clear, yet careful, manner in which he conveys his information. The carboniferous limestone, sometimes called the mountain limestone, from its forming considerable hills, or metalliferous limestone, from its mineral riches. It extends over a surface of about twenty-three miles long by seven broad, containing 161 superficial miles; in this district the lead mines are situated—(here follows a list of all the towns and villages situated on or near the basalt, or outcrop)—the principal mines are situated in the three top rock, the lowest rock containing but few mineral veins, among its numerous open fissures and caverns, and, as far as we know, the whole is about 400 yards thick. Rivers, which flow across it, are suddenly engulfed, pursuing a subterranean course to a considerable distance, as the river Hamps, at Waterhouses, the river Manifold, near Wotton, in Staffordshire, and the Peak water at Castleton, certify. The hills and mountains present rocky dales and mural precipices; hence it presents some of the most picturesque and romantic scenery that England can boast, such as Dove Dale, Matlock Dale, Monsal Dale, Middleton Dale, Weydale, Winnet's Dale, and Viagley Dale. The toadstones, basalts, or trap rocks, are of various colours, from a dark brownish grey to a light coloured ochre, full of green spots, and containing globules of calcareous spar; these nodules, when exposed on the surface, fall out, and leave the toadstone with a cavernous or porous aspect; in some places it has the appearance of a hard, compact, ferruginous stone, in texture and hardness similar to those of the Giant's Causeway in Ireland, and Staffa in Scotland, in the shape of a pentagonal basaltic column, with patches, or streaks, of red jasper; in some places it is schistose, as at Linton—in others, regularly stratified, inclosing nodules of limestone, as at Ashover. He then gives a long and carefully detailed description of the course of the toadstone, its thickness when it has been sunk through, and those places where shafts have been sunk in the basalt, without reaching the limestone below. The direction of the veins, containing lead ore, appears to be nearly (magnetic) east and west in the High Peak from Castleton to Bakewell, but near Worsworth, in the Low Peak, the veins, or pipes, of ore range from south-east to north-west.

The rakes, or veins, of lead ore, in descending, are always terminated, or cut off, by the toadstone, whose course is continuous, separating the high vein from that below, which is commonly not perpendicular to the higher, but sideways several yards; it is remarkable that the vein will contract, or become narrower, as it approaches the toadstones for several yards above and below it; the thin clays sometimes pass the veins, and separate them as completely, and in the same manner; some persons have supposed these toadstones to have been a subsequent formation. The sides, or walls, of a rake vein are commonly lined by fluor, or calcareous spar, termed by the miners "vein stuff," between or against these sides lies the ore, which sometimes fills the space between them, and is then termed "a rib of ore;" but it sometimes happens that the vein stuff on each wall of the vein nearly completely occupies it, and forming what may be termed, from its appearance, a vertical crack down the vein; the two faces in contact appear as though they had been polished, are ribbed or fluted horizontally, and the face of each is sometimes covered with a remarkably thin coating of lead ore; these planes, when separated, are the slickensides of the miner-alogist; when one side of the vein stuff is removed, the other side cracks, but if the miner makes small holes about six inches apart, and four inches deep, in one surface after the other is removed, on returning a few hours after, he finds every part so treated broken to his hand, as in the Gang Mine, near Cromford; Ladywash and Haycliff, near Eyam; Oden Mine, near Castleton. In the year 1738 a tremendous explosion happened in the mine called Haycliff, which, at one blast, detached from thirty to forty tons of mineral, and, at the same time, a man was blown several fathoms upwards, and lodged upon a floor above. A peculiar property of the toadstone is the closeness of its texture, for when the water is too powerful for an engine, or the expense too great, a shaft is sunk upon the rise of the strata, and a drift, or gallery, is driven under the toadstone to the corresponding fissure beneath the first shaft, which never fails producing a dry work, for the close texture of the toadstone will not filter water sufficient to incommode the workmen below. Another property of the toadstone is, that it frequently fills up fissures in the limestone strata, lying immediately under it, and at Salter's Way and Slack Mines, on Bonnal Moor, where two shafts are sunk forty yards in toadstone to the limestone, a third shaft was sunk between the two, from 80 to 100 yards deep, and did not find the bottom of the toadstone.

At Black Hillock, on Tideswell Moor, the third toadstone was sunk into 200 yards, and no bottom found. Here the owner was led into error by his informant, who supposed the different sinkings to be in the same strata, while, in fact, Black Hillock only is upon the third toadstone, and all the other sinkings on the second. The clay is calcined or burnt, when in contact with the toadstone, as at Hently and Cawlow, near Castleton. It is not very common to find lead veins, bearing ore, penetrate the great limestone shale; Oden Mine, at Castleton, and Shaw Engine, near Eyam, are exceptions; in the latter, a vein of lead ore ascended into the shale thirty-four yards. Lead ore has been got in the second coal shale and coal, near Whaley Bridge, Derbyshire, and at Broomhead, in Yorkshire. In some few instances the toadstone beds carry lead ore, usually, however, in small strings. In Nunley Mine, the lead ore was found in toadstone, as stated by Mr. Fergus de St. Fond, notwithstanding the assertions of Mr. Mawe to the contrary; it was worked to a profit in toadstone also, in the Seven Rakes Mine, near Matlock.

Mr. Hall is evidently most particular in noticing any phenomena, which may throw a light on doubtful points in his much-loved science. He records the following:—In 1822, two miners, being in Oxlow Mine, Boston vein, in Peak Forest, heard a dreadful report, superior to the loudest cannon, which rent the solid rock, on the south side of the south vein, in a vertical direction, to the depth of thirty-six yards below the place where the miners stood, and sixteen yards above the same place; this was evident, but how far the rent exceeded this statement they had not the means of ascertaining. One part of the rent was wide enough to admit a man's body, and as sudden concussions and strange noises are often heard in mines, without the hearers being able to ascertain the cause, we here suggest, may well

this not be the way in which all our mineral veins have been formed, and are still forming; the strata acted upon by internal pressure, magnetic influence, or its own gravity, suddenly cracks, and a cavity is formed; this cavity is, by the action of galvanic currents and other circumstances, filled with quartz, clay, and other adventitious substances, and metallic ores, forming in the end the lode from which our metals are extracted. Our space will not allow us, at present, to enter further upon the subject, but hope to be able to insert many of Mr. Hall's future communications.

## Mining Correspondence.

## ENGLISH MINES.

## EAST TAMAR CONSOLIDATED MINES.

July 14.—We are getting on with the engine at Whitson as fast as possible; we are clearing the adit level south; we have cleared the adit level from Whitson to Lockridge, and cannot find any ground left, but all is worked away. Our whim is set up at Fursill, and we are clearing the shaft. The masons have not commenced building at Fursill, as the plan of the engine-house has not arrived; I have written Mr. Fursill, and expect it in a day or two. At Charlotte's the pitches are looking very well; the tributaries will get wages; we are also making dressing-floors at Fursill to commence dressing.—B. ROBINS.

## GUNNIS LAKE MINING COMPANY.

July 14.—At Chilworth the lode in the adit level is eighteen inches wide, composed of spar and gossan. There has been no lode taken down in Bailey's engine-shaft since last report; this shaft is now about five fathoms under the eight fathom level.

## WEST WHEAL JEWEL MINING ASSOCIATION.

July 14.—In the 100 fathom level west, on Wheal Jewel lode, the lode is still small and unproductive; in the 100 fathom level east, on ditto, we have intersected the lode east of the little cross-course in the past week, worth 10 $\frac{1}{2}$  per fathom. In the eighty-five fathom level west, on ditto, the lode is two and a half feet wide, worth 8 $\frac{1}{2}$  per fathom; in the eighty-five fathom level east, on ditto, the lode is two feet wide, in more settled ground, and looking promising for copper. In the seventy-west, on ditto, the lode is without alteration since last report. In the eighty-five fathom level west, on ditto, the lode is without alteration; in the eighty-five fathom level east, on new south lode, the lode is one foot wide, composed of fine gossan and spar. In the forty-two fathom level east, on Buckingham's lode, the lode is six inches wide, unproductive. In the thirty fathom level east, on Morcom's lode, the lode is two feet wide, composed of spar, munda, and spots of yellow ore; in the thirty fathom level west, on Tolcarne tin lode, the lode has not been taken down since my last. In Wilkinson's engine-shaft, sinking below the fifteen fathom level, the lode is three feet wide, composed of spar and spots of ore. S. LEAN. R. JOHNS.

## COOK'S KITCHEN MINE.

July 12.—We are still driving on the flookan part of North Tineroff lode. In the seventy fathom level east the ground is favourable; ditto west the lode is three feet wide, producing good stones of ore, and looking promising. Eudey's lode, in the ninety-two fathom level, is three feet wide, and still unproductive. Chapple's lode, in the 170 fathom level west, is three and a half feet wide, and worth 7 $\frac{1}{2}$  per fathom. Since our last there is not much alteration in the pitch east of the cross-cut, at the 160 fathom level, which is working at 3s. in the 12. In the rise in the back of the 160 fathom level, west of the cross-cut, we are daily expecting to hole to the winze sinking under the 148, which will then enable us to work the ground to great advantage; that part of the lode which we are carrying is three feet wide, and worth 10 $\frac{1}{2}$  per fathom. The ground continues favourable in the winze sinking under the 148. In the 140 fathom level east the lode is four feet wide, and worth 5 $\frac{1}{2}$  per fathom. Dunkin's lode, in the 160 fathom level west, is three feet wide, producing good stones of tin. In the cross-cut south from Rogers's shaft, at the 29 fm. level, we have cut a small branch of the lode, but think the main part is still further south. I cannot speak of any improvement in our tribute department since our last. A. EUDEY.

## UNITED HILLS MINING COMPANY.

July 11.—In Williams's shaft the ground is a little improved. In the eighty fathom level, east of ditto, the lode is four feet wide, two feet on the south part ore of average quality, worth 25 $\frac{1}{2}$  per fathom; in the eighty fathom level, west of ditto, the lode is three and a half feet wide, poor. In the seventy fathom level, east of eastern shaft, the lode is three feet wide, one foot on the north part ore of fair quality, worth 15 $\frac{1}{2}$  per fathom; in the seventy fathom level, west of ditto, the lode is three feet wide, two feet on the south part coarse in quality, worth 7 $\frac{1}{2}$  per fathom; in the seventy fathom level, west of James's shaft, the lode is three feet wide, producing a small quantity of ore, worth 3 $\frac{1}{2}$  per fathom. In the diagonal shaft, under the seven', there has been no lode broken in the past week. In the sixty fathom level, west of James's shaft, the lode is three feet wide, eighteen inches on the south part ore of fair quality, worth 12 $\frac{1}{2}$  per fathom; in the sixty fathom level, east of Harper's winze, the lode is two and a half feet wide, one foot on the north part ore of fair quality, worth 15 $\frac{1}{2}$  per fathom. In the fifty fathom cross-cut south the ground is much the same as last. In the thirty fathom level, east of eastern shaft, the lode is one foot wide, with stones of ore. In the ten fathom level, east of ditto, the lode is eighteen inches wide, producing ore of low quality. At Wheal Sparrow, in the fifty fathom level, east of Gibson's shaft, the lode is two feet wide, producing some good stones of ore; in the fifty fathom level, west of ditto, the lode is two and a half feet wide, coarse in quality. In the forty fathom level, east of ditto, the lode is two feet wide, ore throughout, worth 20 $\frac{1}{2}$  per fathom. In the forty fathom level, west of ditto, the lode is eighteen inches wide, producing but a small quantity of ore. In the winze, under the thirty fathom level, east of Richards's shaft, the lode is two feet wide, unproductive. T. TREVENEN. R. WILLIAMS.

## WHEAL SARAH MINING COMPANY.

July 12.—Although the ground in the shaft, sinking below the twenty fathom level, continues hard, the lode is still four feet wide, with a vein of silver-lead ore, about eight inches wide, traversing on the foot-wall. The lode in the twenty fathom level north is two feet wide, composed chiefly of friable quartz and flookan, containing minute grains of lead; the lode in the south end is three feet wide, two feet of which consists of gossan, hornstone, and carbonate of iron, whilst a foot of it carries lead ore, producing saving work. The end, driving north-east from the old adit, is still in favourable ground. We have opened a little on the lode mentioned in my last report; it is about three and a half feet wide, containing a little carbonate of lead, and showing other indications of a very promising character. JOHN PRINCE.

## CALLINGTON MINING COMPANY.

July 14.—Johnson's engine-shaft is sunk four and a half fathoms below the 100 fathom level; the lode has not been taken down in either of the ends at this level for the past week. In the ninety fathom level, driven south, the ground is soft, lode worth 3 $\frac{1}{2}$  per fathom; in the north end it is producing silver-lead ore; the winze, sinking below this level, has been communicated with the level below. In the eighty fathom level, driving north, we are opening tribute ground; in the winze, sinking below this level, the lode has not been taken down. In the seventy fathom level, driving south, the lode is producing silver-lead ores. At the north mine, in the ninety fathom level, driving south, the ground is soft, lode worth 3 $\frac{1}{2}$  per fathom. We have also commenced driving north, where the lode is worth 6 $\frac{1}{2}$  per fathom. In the eighty fathom level the lode is worth 4 $\frac{1}{2}$  per fathom. In the seventy fathom level the lode is worth 7 $\frac{1}{2}$  per fathom. We have set a winze to sink from the sixty, for the purpose of ventilating this level. Our tribute pitches in both mines are working well, and we intend sampling on Saturday next. J. T. PHILLIPS.

## TRELEIGH CONSOLS MINING COMPANY.

July 12.—Christie's shaft, below the eighty fathom level, is sinking in the country; in the sump winze, below the eighty fathom level, no lode taken down. The Garden shaft, below the seventy, is sinking in the country in pretty kllas; in the seventy, west of Good Fortune, the lode is two feet wide, producing stones of ore; in the seventy, east of ditto, the lode is twenty inches wide, with little mineral. In the sixty fathom level, west of ditto, the lode is three feet wide, worth 9 $\frac{1}{2}$  per fathom; in the sixty, east of ditto, the lode is three feet wide, with stones of ore, rather more promising. In the fifty fathom level, west of Symons's, the lode is two feet wide, worth 8 $\frac{1}{2}$  per fathom; in the winze, below the fifty fathom level, the lode is twenty inches wide, worth 10 $\frac{1}{2}$  per fathom; in the fifty fathom cross-cut, north the ground is more favourable. In the thirty-four fathom level, west of ditto, the lode is eighteen inches wide, with stones of ore; in the adit, west of ditto, the lode is one foot wide, not much ore. We have set the back in the twenty fathom level, east and west of the rise, at 6s. tribute. W. SYMONS.

## HOLMBUSH MINING COMPANY.

July 15.—In the 120 fathom level, west of the cross-cut, the lode is small and poor; in the south cross-cut the ground is favourable for driving. In the 110 fathom level, west of Hitchens's shaft, the lode is eighteen inches wide, and worth 25 $\frac{1}{2}$  per fathom; in the stopes in the bottom of this level the lode is fifteen inches wide, and worth 15 $\frac{1}{2}$  per fathom; in the stopes in the back of ditto, west of Hitchens's winze, the lode is twenty inches wide, and worth 28 $\frac{1}{2}$  per fathom; in the stopes east of ditto the lode is fifteen inches wide, and worth 22 $\frac{1}{2}$  per fathom; in the stopes west of the sump winze the lode is twenty inches wide, and worth 30 $\frac{1}{2}$  per fathom; in the stopes east of Lobb's winze the lode is one foot wide, and worth 9 $\frac{1}{2}$  per fathom; in the stopes west of Goldworthy's winze the lode is one foot wide, and worth 10 $\frac{1}{2}$  per fathom. In the 100 fathom level, west of Hitchens's shaft, we have opened through the lead lode, which is three feet wide, one foot of it being good saving work for silver-lead ore; we intend opening on its course north and south a few feet; in the stopes in the back of this level the lode is two feet wide, and worth 25 $\frac{1}{2}$  per fathom. In the ninety fathom level west the lode continues small and poor. In the sixty-two fathom level west the lode is six inches wide, producing stones of ore. The risemen against Bray's shaft have been employed fixing an air machine, putting in air pipes, &c.; at the eighty fathom level, they will commence rising in a day or two. The tribute department, on the whole, continues to turn out well. T. RICHARDS.

## TRELEIGH CONSOLS MINE.

Harrowbarrow, July 16.—We have since last report driven the seven fathom level west three fathoms, through a lode about one foot wide, composed of munda, peach, spar, and copper, but not rich—the ground favourable for driving; the seven fathom level west we have driven six fathoms, through a lode about two feet wide, composed of spar, munda, flookan, and copper, and of a very kindly appearance; the men are suspended from the south, or lead, and are sinking a shaft on the George and Charlotte lode, on which we have a large gossan at surface. More particulars I shall be able to speak of after the next general meeting, which is to take place the 1st of August.

## HARROWBARROW CONSOLS.

The deep adit is cleared fifteen fathoms east of Hancock's shaft; at this point the lode is about two feet wide, with its regular and kindly appearance; a pair of tributaries are working on the copper lode in back of said level, and doing well on one-half tribute. Brewer's shaft has been sunk about two fathoms since my last report; at this point the lode is widening, and looking better than it did above; we have not yet the whim erected; we have been waiting for the iron, but hope to complete it in the course of the week.

## HARROWBARROW OLD MINE.

We are getting on with the surface work against the new engine arrives, and also with the necessary work for the smiths and carpenters' shops; the main beam of the engine is cast, and materials daily arriving on the mine. The ten fathom level, on Wheal Brothers lode, is about two and a half feet wide, producing some good stones of lead and silver ore; the tributaries in back of said level are raising some good silver ore.

## WEST HOLMBUSH MINE.

We have driven about twenty fathoms in the adit level cross-cut, and have about thirty fathoms more to drive to intersect the copper lode we cut in shodding, which is five feet wide, and which we were prevented sinking on, in consequence of the surface water; the level is driving through a soft kindly kllas. On the lead lode we have sunk 7 fms., and driven about five; it is 2 $\frac{1}{2}$  ft. wide, composed of pram, mica, munda, and gossan—a very kindly lode.

## GREAT WHEAL WILLIAMS MINE.

This mine is situated to the north of Wheal Concord and West Wheal Maria, west of Coombe Vale, and south of Wheal Concord. This sett contains several lodes passing through a beautiful mineral strata of soft blue kllas; several lodes we have seen, one of which we are driving on, and is composed of gossan, spar, and munda, and is a very kindly lode. B. COOKE.

## SILVER VALLEY MINING COMPANY.

July 14.—I beg to say that the old balance-bob bed is cleared out, and the foundation enlarged for the bed of masonry for the new balance-bob, which the masons will now commence building; and we are now clearing out the foundation for a bed of masonry for the bob at the south shaft, which we shall get ready for the masons, if possible, by the time the building at the north shaft is completed. We expect the heavy parts of the engine will be brought on the mine this week. J. RICHARDS.

## HAWKMOOR MINING COMPANY.

July 14.—I beg to inform you that Hitchens's shaft is 13 fms. 4 ft. below the surface. We are proceeding as fast as possible erecting the necessary work and machinery for sinking the western shaft. P. RICHARDS.

## CORNUBIAN MINING COMPANY.

July 14.—There is no alteration in the eighty-five fathom level, going east or west of Murray's engine-shaft, the appearances being much the same as reported on the 7th inst; west of Murray's engine-shaft, Chiverton lode continues there to be worth about one ton of ore per fathom. The three pitches working there (at that level), west of eastern shaft, by eighteen men, are looking well, and turning out a fair quantity of rich work; the eastern end (eighty-six) is without alteration—lode about eighteen inches wide, yielding stones of ore. The tributaries working on the north lode at the seventy and seventy-eight fathom levels are working diligently, and most of them are earning wages in their respective tributaries. RICHARD ROWE.

## BEDFORD UNITED MINING COMPANY.

July 14.—At Wh. Marquis the engine-shaft is sinking in favourable ground. In the seventy fathom level east the lode is two feet wide, composed of spar, munda, and ore—saving work. In the fifty-eight fathom level east there has been no lode taken down since our last; in the eastern winze, in the bottom of this level, the lode is two feet big, and worth 10 $\frac{1}{2}$  per fathom. In the stopes west of western winze, in the bottom of this level, the lode is two feet wide, and worth 16 $\frac{1}{2}$  per fathom. In the rise in the back of the forty-seven fathom level west the lode is two feet wide, composed of spar and ore, and worth 5 $\frac{1}{2}$  per fathom. The men are still rising in the back of the adit level. At Ding-Dong there has been no lode taken down in Thomas's engine-shaft. At Wheal Tavistock the lode in Phillips's engine-shaft, and in the 25 fm. level west, is 2 $\frac{1}{2}$  ft. wide, producing saving work—altogether very kindly. J. PHILLIPS.

## FOREIGN MINES.

## IMPERIAL BRAZILIAN MINING ASSOCIATION.

May 3.—I regret that my hopes of the western ground have hitherto been disappointed; our explorations are, however, still in progress, with a force more than proportionate to the extent of the ground, compared with other parts of the mine. I will relax no exertion, nor omit a single chance which may offer. The mine affords nothing of importance—a little gold has, within the last ten days, been obtained from the back of the forty-one fathom level, west of Bayley's shaft, but none has been seen for two or three days past. At Brightman's and Gibbs's shafts, in Catta Preta, we have nothing new, but there is a slight improvement at Thomas's shaft.

May 13.—I am sorry still to report the continuance of poverty in the mine, which has undergone no alteration since my last. A rise has been made through the vein from the seventy to the sixty-two fathom levels, west of Veay's shaft, but it has disclosed nothing of value. Within two or three days past, some samples, taken by Captain Blamey and myself, from a formation near Tabo-llo, has shown particles of gold; we purpose resampling, and if we obtain similar results, we shall make some explorations there. At Catta Preta a new shaft has been commenced on Thomas's lode, for the sake of ventilation, as well as for the purpose of sinking to a deeper level. At Gibbs's the lode eastward has become quartzose, and is materially improved in appearance. At Brightman's shaft the cross-cut has reached the hard rock, but nothing yielding gold has been yet discovered.

Gold Report.		W. J. HESWOOD.	
From the stamps.	Total raised.	From April 14 to 15.....	Rs 4 17 0
" 21.....	Rs 5 4 8 0	" 21.....	5 12 0
" 26.....	" 6 5 12 0	" 26.....	1 17 0
" 30.....	" 6 5 12 0	" 30.....	7 3 8 0
" May 9.....	" 4 7 11 0	" May 9.....	0 0 5 0
" 10.....	" 4 7 11 0	" 10.....	4 7 11 0
Total from Jan. 1 to May 12.....		" 16 5 11 0	Rs 23 7 10 0
		" 16 5 11 0	Rs 75 8 11 12

## ST. JOHN DEL REY MINING COMPANY.

Morro Velho, April 18.—Heads working during eighteen days, 66-34. This average is much more satisfactory than we have had for some time past—for the last three weeks; the rejected ores are still assisting us, and everything from the mine is stamped.

Mine.—The Bahu sump is sinking, and the Gamba pumps are being fixed; the ground is poor. The sinking of Pengilly shaft is suspended, there being sufficient for three stopes to be started, one of which was done a few days since. The working down of the East Cachoeira was getting on with an increased force till yesterday, when we were obliged to stop, from the dangerous state of the hanging wall; it must be secured immediately. The great West Cachoeira is being laid open, the very poor bar of kllas is being passed, and a fine large lode is fast opening, so that every week this part of the mine will be supplying more and more ore; throughout the mines everything is going on satisfactorily, with the exception of the East Cachoeira.

April 28.—Heads working during 28 days, 67-9. The produce appears to be tending towards 10,000 oits. for the month; the supply of ore has been good, but inferior, from the number of almost dead places we are working at.

Mine.—The timbermen are still securing the East Cachoeira; the west is being laid open. I observe you appreciate the opening of this piece of lode; it will offer us drawing stations for the whole of the United Mines. This part of the lode, though powerful, will be exceedingly troublesome to work, in consequence of its very awkward underlie, which will render the leaving of arches indispensable, and that not seldom; the two great middle and West Cachoeiras will form an immense cavern; they have now 24-35ds of the whole boring force employed in it, and are not supplying so much ore as if the whole were employed in the United Mines. The Bahu and Gamba shafts are being sunk, and the pumps are fixed in their proper direction.

May 8.—Produce for April, 10,457 oits. = 100-45 lbs. troy, from 2847 tons of ore = 3-67 oits. per ton. The mine works have proceeded with the greatest regularity that our force would allow; the average number of borers is 121 $\frac{1}{2}$ , which is greater than ever before reported; had they been employed on the stopes only, the produce would have been better. I expect, however, that during the present month of May, we shall not have to take away so much unproductive ground. The sinking in the Bahu continues; it is exceedingly hard and poor; the Gamba also is worth little or nothing; the stopes throughout the mines are as usual. An arch is being left in the middle of the East Cachoeira, for the support of the hanging wall, which the mine captains consider essential to the future safety of the mine. A commencement is made for putting in a stall all along the United Mines, from the entrance of the grit to the west road; this will be an excellent thing for the safety of the people below, in case of any kllas or stones falling away.

Mechanics.—The double acting pump is the leading work, and is a heavy job. Rouse expects to have it ready to put in the mine by the end of this month. Reduction.—It affords me great pleasure to be able to report that the mine is now giving its usual quantity of ore; since the 24th, the supply has been ample for all the 71 heads, and if it continues to furnish the same quantity, the returns for the ensuing month will, I hope, be satisfactory. Costs for April, Rs 23,310 887—24284, 4s. 2d.



## Current Prices of Stocks, Shares, &amp; Metals.

STOCK EXCHANGE, Saturday morning, Twelve o'clock.	
Bank Stock, 210 1/4	Russian, 5 per Cents, 117 1/2
3 per Cent. Redwood Ann., 99 1/2	Spanish, 5 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2
Eschsch. 5 1/2	ditto, 3 per Cents, 26 1/2

## SHARE MARKET.

MINES.—There has been rather more than usual business done in British mine shares during the past week, and a marked improvement has taken place in—Andrew and Nangiles, done at 100; Barristown at 330; Caradon United at 16; Condurrow at 20; South Caradon at 600; Wheel Seaton at 400; and Wheel Trelawney at 200; and we are assured that these have all been bona fide sales.

RAILWAYS.—At the commencement of the week the share market was unusually steady, with scarce any change in prices; the settlement on Wednesday passed off in the most satisfactory manner, and but little business was done towards the close of the week—yet, upon the whole, that brisk spirit of speculation which characterised the market a few weeks since, appears, if not to be dying away, at least to be dormant, and a greater degree of caution evidently marks the conduct of buyers; prices, if anything, are in general a shade lower than quoted in our last. There has been little of importance to mark the proceedings in Parliament during the week—the Oxford, Worcester, and Wolverhampton is still the subject of investigation before the committee in the Lords, and the shares are something like 5 1/2 pm., while the Rugby, Worcester, and Tring shares still bear a premium of from 1/2 to 1. Notwithstanding the decision of the committee to the contrary, the evidence of every witness bears on the question of the gauge, and the evidence is now very strong in favour of the narrow. Mr. Hauser (the agent at Birmingham of Messrs. Pickford), during the giving his evidence, introduced a table, showing the proportion of the number of miles of each gauge, made, making, and projected, the result being 6 to 1 in favour of the narrow; the following are the details:—

	Broad.	Narrow.
Railways made	278	1844
in progress	53	614
projected	1311	6918
Total	1642	9376

The gauge commissioners have not yet entered on the examination of any witnesses, and as the session is now near its termination, it is probable no actual official investigation will be proceeded with until the re-assembling of Parliament, and this delay will not be productive of harm, but will give the commissioners the opportunity of storing their minds with many facts bearing on this important question, and making themselves acquainted with the details of the subject, before examining witnesses, whom we have no doubt will be selected from among the most scientific and practical men the kingdom can afford.

JOINT-STOCK BANKS.—Colonial, 15 1/2; London Joint-Stock, 15; London and Westminster, 27 1/2; Union of Australia, 26; Australian, 33; British North American, 48 1/2.

MISCELLANEOUS.—Equitable Reversionary Society, 89 1/2; General Steam Navigation, 26 1/2; Peninsular and Oriental Steam Navigation Company, 73; Reversionary Interest Society, 100.

MESSRS. LAMOND'S SALES.—The following are Tuesday's prices:—MINES.—Condurrow, 17 1/2; West Wheel Concord, 1 1/2; Nister Dale Iron Company, 24; Old Harrowbarrow, 1 1/2; Lamarhoe Wheel Maria, 4 1/2; South Caradon, 550 1/2; Great Wheel Martha Consols, 4 1/2; North Wheel Providence, 2 1/2; East Tincroft, 1 1/2; Tamar, 8 1/2; Tincroft, 10 1/2; Callington, 29 1/2; Trevelyan, 45 1/2; Santiago, 24 1/2; Copiapo, 4 1/2; West Holmbush, 1 1/2; Wheel Elizabeth, 4 1/2; Caradon United, 14 1/2.

RAILWAYS.—Caledonian Extension (2 1/2 pd.), 2 1/2; Italian and Austrian (1 1/2 pd.), 2 1/2; Whitehaven and Furness (1 1/2 pd.), 2 1/2; Grand Union (1 1/2 pd.), 1 1/2; Dendro Valley (2 1/2 pd.), 2 1/2; Paris and St. Quentin (2 1/2 pd.), 1 1/2; Welsh Midland (2 1/2 pd.), 3 1/2; Cornwall (3 1/2 pd.), 3 1/2; 16s. 6d.; Louvain and Jemeppe (4 1/2 pd.), 5 1/2; Jamaica Junction (1 1/2 pd.), 4 1/2; Dunstable, London, and Birmingham (1 1/2 pd.), 1 1/2; 19s.; Armagh, Coleraine, and Portrush (1 1/2 pd.), 1 1/2; Durham and Sunderland (50 1/2 pd.), 24 1/2; South Midland (22s. pd.), 1 1/2.

MISCELLANEOUS.—Western Gas, 1 1/2; Waterman's Steam-Packet, 1 1/2; Old Woolwich Company, 3 1/2; Lancaster Canal (47 1/2 pd.), 42 1/2; Bude Light Company (3 1/2 pd.), 17s.

The following are the prices realised on Friday:—Whitehaven and Furness (1 1/2 pd.), 2 1/2; Direct Northern (2 1/2 pd.), 2 1/2; Dunstable, London, and Birmingham (1 1/2 pd.), 2 1/2; Shrewsbury, Worcester, and Chester (1 1/2 pd.), 3 1/2; Eastern Counties (14 1/2 pd.), 21 1/2; 9s. 6d.; South Midland (22s. pd.), 2 1/2; 11s. 6d.; Manchester, Buxton, and Matlock (22s. pd.), 5 1/2; Orleans, Tours, and Bordeaux (4 1/2 pd.), 10 1/2; 6d.; Gt. North of France—Lafites (4 1/2 pd.), 5 1/2; 4s. 6d.; ditto, Rosamel's (2 1/2 pd.), 2 1/2; Over Yssel (4 1/2 pd.), 4 1/2; Paris and Lyons—Ganneron's (2 1/2 pd.), 2 1/2; 7s. 6d.; Boulogne and Amiens (6 1/2 pd.), 10 1/2; 4s. 6d.; London and York (2 1/2 pd.), 4 1/2; Indian General Steam Navigation Company (20 1/2 pd.), 20 1/2; Londonderry and Coleraine (2 1/2 pd.), 3 1/2; 12s. 6d.; North Wales (1 1/2 pd.), 3 1/2.

LEEDS, THURSDAY.—If there be any one who doubts of the success of railways, even among the "agricultural mind," let him just notice the vast increase of traffic that has taken place in the receipts of those lines which have been in active operation during the past few years, during the course of the past spring, as compared with those that took place during the corresponding period of the year 1844, and then we think all doubts will be at once dissipated. In no line has there been so marked an increase as in the triple alliance at Derby, in other words in the Midlands—viz., 57,000 1/2 in the London and Birmingham the increase has been 52,000 1/2; in the Great Western, 41,000 1/2; in the Grand Junction, 30,000 1/2; in the Brighton, 14,000 1/2; and in the South-Western, 8000 1/2. The total increase during the past six months has been not far short of half a million; and what is equally remarkable, the gross amount of the spring receipts falls only 100,000 1/2 short of what it was last autumn, out of so large an amount as 2,900,000 1/2 in round numbers! Midlands continue in extremely good demand at 194 per cent., and the 40 1/2 shares firm at 30 1/2; the meeting on the 25th will give a further impulse to prices. Great North of England are offering at the current prices, and buyers are not numerous; we have had no quotation as yet for the new 15 1/2 shares. Croydon and Brighton are breezy, the former at 22 1/2, and the latter at 77 1/2; a considerable rise in both these stocks may be anticipated during the next three months. North British are on the move, and are very scarce in the market. Wakefield and Goole have risen 6 1/2 per share within the last few days; the evidence before the Lords is so favourable as to leave little doubt of the bill being got. Dewsbury are not strong at 19 1/2 per share, and will not, we think, go much higher, even if they maintain their present figure. West Yorks at 6 1/2 are much cheaper, in our eyes, than West Ridings at 7 1/2; supposing that no arrangement is come to between the two companies, and the contest be renewed in the next session of Parliament, we regard the chance of the West Yorks as at least equal to that of the Junction, and cannot, therefore, understand why one stock is at 5 1/2 premium on a 20 1/2 share, and the other only at 3 1/2 on a 50 1/2 share. Thirskers are heavy, in anticipation of a call; yesterday they were at 45s. pm., to-day they have been more lively at 57s. pm. R. B. WATSON, TOOTAL, & BAEFF.

HULL, THURSDAY.—We have had a firm, but not excited, market during the week. Midland 40 1/2 shares, Hull and Selby, old and halves, meet buyers at any prices below general quotations. This morning we have to note an improved demand for Leeds and Bradford, old and extensions; North Westerns and Wakefields, Pontefract and Goole, London and Yorks, and North British halves are also good.

LONDON AND WINDSOR DIRECT RAILWAY.—The inhabitants of Windsor promoters of this line, have had an unexpected refusal to their application for permission to pass through the Crown Lands. After a meeting called for the purpose, a few days since, a memorial was forwarded to the Commissioners of Woods and Forests, requesting permission for the railway to pass close to the Castle; an answer has been received, stating that, as it is considered highly injurious for a railway to pass in the way contemplated, the Commissioners would not trouble the deputation to leave Windsor for London, to submit the details of the project. The only way by which a line from London could reach Windsor, without touching Crown property, would be by Slough, and cross the Thames about one mile above Windsor-bridge.

GREAT WESTERN RAILWAY AND KENNET AND AVON CANAL.—An important negotiation is on foot between the executives of these two companies, being no less than the purchase by the Great Western Company of the Kennet and Avon Canal. Of the result of this negotiation there can scarcely be a doubt. The railway party will, of course, be glad to obtain the entire unopposed carrying trade of so large a district, and the canal company will be equally content at giving up a gradually falling off concern, open to the competition of a powerful rival.

## COPPER ORES

Sampled July 2, and sold at Pearce's Hotel, Truro, July 17, 1845.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Wh. Maria	111	21 1/2	West Caradon	52	27 1/2
ditto	111	21 1/2	ditto	50	27 1/2
ditto	110	21 1/2	ditto	40	27 1/2
ditto	104	21 1/2	ditto	30	27 1/2
ditto	101	21 1/2	ditto	21	27 1/2
ditto	97	21 1/2	ditto	50	27 1/2
ditto	83	21 1/2	ditto	50	27 1/2
ditto	53	21 1/2	ditto	51	27 1/2
Tresavean	95	21 1/2	ditto	39	27 1/2
ditto	71	21 1/2	ditto	22	27 1/2
ditto	68	21 1/2	ditto	16	27 1/2
ditto	61	21 1/2	Wh. Jewel	81	27 1/2
ditto	38	21 1/2	ditto	61	27 1/2
Wh. Lydia	111	21 1/2	ditto	49	27 1/2
ditto	91	21 1/2	ditto	33	27 1/2
ditto	52	21 1/2	Fowey Consols	42	27 1/2
ditto	109	21 1/2	ditto	73	27 1/2
ditto	81	21 1/2	ditto	45	27 1/2
ditto	8	21 1/2	Holmbush	95	27 1/2
West Caradon	52	27 1/2	ditto	82	27 1/2
ditto	80	27 1/2	Bedford United	70	27 1/2
ditto	54	27 1/2	Wh. Maiden	73	27 1/2

## TOTAL PRODUCE.

Wh. Maria	776	£7274 17 6	Wh. Jewel	226	£2149 8 6
Tresavean	493	1931 3 0	Fowey Consols	200	1024 16 6
Wh. Lydia	458	2173 14 0	Holmbush	177	1593 2 0
South Caradon	397	3580 2 0	Bedford United	107	711 11 6
Poldice	369	1570 4 6	Wh. Maiden	73	382 4 0

Average standard, 102 1/2. Average produce, 9. Average price per ton, 67. 9s. 0d. Quantity of ore, 327 1/2 tons. Quantity of fine copper, 296 tons 1 cwt. Amount of money, 21,308 1/2. Average standard of last sale, 107 1/2. Average produce ditto, 7 1/2.

## COMPANIES BY WHOM THE ORES WERE PURCHASED.

Mines.	Tons.	Amount.	Mines.	Tons.	Amount.
Mines Royal Company	193	£1241 3 6	Wh. Maria	776	£7274 17 6
English Copper Company	338	1476 7 9	Tresavean	493	1931 3 0
Freeman and Sons	744	3204 8 6	Wh. Lydia	458	2173 14 0
Graveland and Sons	758	3299 6 9	South Caradon	397	3580 2 0
Sims, Williams, Nevill, Druce, and Co.	321	2163 13 6	Poldice	369	1570 4 6
Williams, Foster, and Co.	577	4568 6 6			

## COPPER ORES FOR SALE ON THURSDAY NEXT, AT PEARCE'S HOTEL, TRURO.—MINES AND PARCELS.

—United Mines 906—Consolidated Mines 330—South Caradon 412—Perran St. George 256—Par Consols 230—Tresavean 204—Truchellan 191—Fowey Consols 163—Hallenbeagle 151—Wheel Sisters 143—Trellich Consols 135—Wheel Ellen 100—Copper House Slag 81—Wheel Anna 64—West Trellich 47—Williams' East Downs 33—Harvey's Dress—33—Wheel Henry 21.—Total, 3991 tons.

Copper ores for sale on Thursday week, at Tyack's Hotel, Camborne.—MINES AND PARCELS.—East Wh. Croft 653—Tincroft 473—Camborne Vein 415—Grahamer and St. Aubyn 274—South Wheel Basset 273—Dolcoath 264—Lanivet Consols 210—Fowey Consols 163—Trellich 121—East Pool 100—Wheel Vyryan 85—Wheel Trevelyan 69—Gololphin 65—Barrier 59—Trellich 40—Condurrow 40—West Wheel Treasury 12.—Total, 3319 tons.

## COPPER ORES

Sampled on the 25th of June, and sold, on the 16th July, at Swansea.

Mines.	Tons.	Prod.	Stand.	Price.	Mines.	Tons.	Prod.	Stand.	Price.
Cobre	133	131	92 1/2	£10 3 0	Santiago	76	24	88	£18 17 6
ditto	114	131	92 1/2	0 0	ditto	64	24 1/2	87 1/2	18 17 6
ditto	108	131	92 1/2	9 15 0	ditto	57	24	88	18 17 6
ditto	98	131	93	9 13 0	ditto	45	24 1/2	87 1/2	18 17 6
ditto	80	131	92 1/2	9 15 0	ditto	40	24	87 1/2	18 17 6
ditto	45	21 1/2	89	16 13 0	Bearhaven	131	104	100	8 5 0
ditto	106	121	93	9 9 6	ditto	98	101	103 1/2	8 5 0
ditto	103	121	92 1/2	9 11 6	ditto	95	101	102 1/2	8 7 0
ditto	90	121	93 1/2	9 9 6	ditto	76	101	101 1/2	8 3 0
ditto	83	121	93 1/2	9 9 6	Victoria	97	82	100 1/2	6 3 0
ditto	72	121	94	9 12 0	ditto	106	84	102	6 0 0
ditto	67	121	93 1/2	9 9 6	ditto	88	33	90 1/2	6 15 0
ditto	119	121	94 1/2	9 10 6	ditto	2	20	88 1/2	6 15 0
ditto	108	131	94	10 1 0	S. Jose in Cobre	80	193	90 1/2	15 8 6
ditto	107	131	94 1/2	10 0 0	ditto	79	193	90 1/2	15 10 0
ditto	100	131	93 1/2	9 10 0	ditto	44	123	93 1/2	9 13 0
ditto	68	121	94 1/2	9 18 0	ditto	39	20	88 1/2	15 10 0
ditto	116	131	93 1/2	10 3 0	Chill	106	303	89	23 2 6
ditto	109	131	93 1/2	9 13 0	ditto	88	33	90 1/2	28 7 6
ditto	80	121	94 1/2	9 16 0	Knockmahon	89	10	103 1/2	6 15 0
ditto	69	131	93 1/2	10 3 0	ditto	76	71	109 1/2	5 11 6
ditto	82	21 1/2	88 1/2	16 10 0	Ballynarragh	90	67	112 1/2	5 6 6
ditto	80	202	88 1/2	16 17 0	ditto	47	3	112 1/2	2 14 0
ditto	78	202	87 1/2	15 10 0	ditto	16	6	112 1/2	5 6 6
ditto	76	202	87 1/2	15 9 0	Parys Mine	60	55	117 1/2	4 4 6
ditto	65	211	88 1/2	16 10 0	ditto	53	67	114 1/2	4 4 6
ditto	60	202	87 1/2	15 13 0	ditto	101	10	103 1/2	6 15 0
ditto	62	131	93 1/2	10 3 0	Llandiloes	101	10	103 1/2	6 15 0
ditto	121	111	94 1/2	8 12 0	Tigrony	34	64	112 1/2	5 4 0
ditto	105	121	93 1/2	9 2 0	ditto	24	44	112 1/2	3 10 6
ditto	100	121	92 1/2	9 2 0	Cronbane	16	42	112 1/2	3 10 6
ditto	95	121	91 1/2	9 2 0	Connorro	15	31	135	2 12 6
ditto	95	254	86 1/2	19 16 0	ditto	13	30	87 1/2	24 0 0
ditto	86	24	88 1/2	15 1 0	Cwm Sebon	14	108	104 1/2	8 16 6
ditto	79	254	87	19 15 0	Llandiloes	7	21 1/2	95 1/2	18 6 6

## TOTAL PRODUCE.

Cobre	1981	£19723 7 0	Ballynarragh	153	£691 7 0
Cuba	862	10794 1 6	Parys Mine	113	5416 15 3
Santiago	504	9750 9 0	Llandiloes	101	681 15 0
Bearhaven	400	3301 18 0	Tigrony	58	261 8 0
Victoria	245	1568 11 0	Cronbane	16	56 8 0
San Jose in Cobre	242	3487 12 0	Connorro	28	352 2 0
Chill	194	5160 5 0	Cwm Sebon	14	123 11 0
Knockmahon	165	1142 7 6	Llandiloes	7	127 18 6

## COMPANIES BY WHOM THE ORES WERE PURCHASED.

Mines.	Tons.	Amount.	Mines.	Tons.	Amount.
English Copper Company	534	£2184 4 0	Wh. Maria	776	£7274 17 6
Freeman and Co.	88	2497 0 0	Tresavean	493	1931 3 0
P. Grenfell and Sons	745	3146 15 3	Wh. Lydia	458	2173 14 0
Sims, Williams, Nevill, Druce, and Co.	645	7911 17 6	South Caradon	397	3580 2 0
Vivian and Sons	1557	16145 6 6	Poldice	369	1570 4 6
Williams, Foster, and Co.	1512	17581 19 3			

Copper ores for sale July 30.—Cobre 124—123—114—48—95—92—85—71—48. Chill 52—51—50—48—43—39—36. Knockmahon 81—70. Bearhaven 104. Racurano 73. Ballynarragh 52. Glasgow Slag 49. Molland 64. American 4.—Total, 1604 tons.

## WORK PERFORMED BY CORNISH ENGINES.

The number of pumping-engines reported for the month of June is 37—the quantity of coal consumed being 2713 tons, lifting, in the aggregate, 27,000,000 lbs. of water 10 fathoms—the average duty of the whole is, therefore, 58,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.

## LATEST CURRENT PRICES OF METALS.

LONDON, JULY 18, 1845.

LONDON, JULY 18, 1845.														
IRON.					TIN.									
Isos.	Wales.	£ s. d.	Isos.	Wales.	£ s. d.	Isos.	Wales.	£ s. d.	Isos.	Wales.	£ s. d.			
London	7 10	0 0	Tin	Com. block.	0 0	4 10 0	London	7 10	0 0	Tin	Com. block.	0 0	4 10 0	
Refined	0 0	8 15 0	Refined	0 0	8 15 0	Refined	0 0	8 15 0	Refined	0 0	8 15 0	Refined	0 0	8 15 0
Hoop (Str.)	10 10	0 0	Strait	0 0	4 3 0	Hoop (Str.)	10 10	0 0	Strait	0 0	4 3 0	Hoop (Str.)	10 10	0 0
Sheet	11 10	0 0	Banca	0 0	4 3 0	Sheet	11 10	0 0	Banca	0 0	4 3 0	Sheet	11 10	0 0
Bars	9 10	0 0	TIN PLATES—Ch. IX, box	1 14	1 16 0	Bars	9 10	0 0	TIN PLATES—Ch. IX, box	1 14	1 16 0	Bars	9 10	0 0
Scotch pig, Clyde	3 0	0 3 2 6	Coke, IC	1 7	1 9 0	Scotch pig, Clyde	3 0	0 3 2 6	Coke, IC	1 7	1 9 0	Scotch pig, Clyde	3 0	0 3 2 6
Russian, CNDe	0 0	0 0	IX	1 3	1 9 0	Russian, CNDe	0 0	0 0	IX	1 3	1 9 0	Russian, CNDe	0 0	0 0
PSI	14	5 15 0 0	Lead—Sheet	20	20 10 0	PSI	14	5 15 0 0	Lead—Sheet	20	20 10 0	PSI	14	5 15 0 0
Gourier	14	4 14 0 0	Pig, refined	0 0	21 0 0	Gourier	14	4 14 0 0	Pig, refined	0 0	21 0 0	Gourier	14	4 14 0 0
Archangel	0 0	0 0	common	19	5 19 0 0	Archangel	0 0	0 0	common	19	5 19 0 0	Archangel	0 0	0 0
Swedish, for arriv.	0 0	11 10 0 0	Spanish, in bd.	0 0	0 0	Swedish, for arriv.	0 0	11 10 0 0	Spanish, in bd.	0 0	0 0	Swedish, for arriv.	0 0	11 10 0 0
on the spot	0 0	0 0	American	0 0	0 0	on the spot	0 0	0 0	American	0 0	0 0	on the spot	0 0	0 0
Steel, fast.	15	5 16 10 0	Spelter (Coke)	24	0 24 10 0	Steel, fast.	15	5 16 10 0	Spelter (Coke)	24	0 24 10 0	Steel, fast.	15	5 16 10 0
kegs	15	5 16 10 0	Zinc—(Sheet) m export.	0 0	30 0 0	kegs	15	5 16 10 0	Zinc—(Sheet) m export.	0 0	30 0 0	kegs	15	5 16 10 0
File	0 0	47 0 0	QUICKSILVER	0 0	0 4 6	File	0 0	47 0 0	QUICKSILVER	0 0	0 4 6	File	0 0	47 0 0
Tough cake	0 0	68 10 0 0	REFINED METAL	0 0	7 2 6	Tough cake	0 0	68 10 0 0	REFINED METAL	0 0	7 2 6	Tough cake	0 0	68 10 0 0
Best selected	0 0	91 10 0 0	Discount 24 per cent.	0 0	0 0	Best selected	0 0	91 10 0 0	Discount 24 per cent.	0 0	0 0	Best selected	0 0	91 10 0 0
Ordinary sheets, lb.	0 0	0 0 10 0	Discount 24 per cent.	0 0	0 0	Ordinary sheets, lb.	0 0	0 0 10 0	Discount 24 per cent.	0 0	0 0	Ordinary sheets, lb.	0 0	0 0 10 0
bottoms.	0 0	0 0 11 0	Discount 24 per cent.	0 0	0 0	bottoms.	0 0	0 0 11 0	Discount 24 per cent.	0 0	0 0	bottoms.	0 0	0 0 11 0
Discount 24 per cent.	0 0	0 0 11 0	Discount 24 per cent.	0 0	0 0	Discount 24 per cent.	0 0	0 0 11 0	Discount 24 per cent.	0 0	0 0	Discount 24 per cent.	0 0	0 0 11 0
kegs 1 and 1/2-inch.	0 0	0 0 11 0	Discount 24 per cent.	0 0	0 0	kegs 1 and 1/2-inch.	0 0	0 0 11 0	Discount 24 per cent.	0 0	0 0	kegs 1 and 1/2-inch.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
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Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
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Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
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Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
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Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
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Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
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Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0	Discount 14 per cent.	0 0	0 0	Discount 14 per cent.	0 0	0 0 11 0
Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0	Discount 3 per cent.	0 0	0 0	Discount 3 per cent.	0 0	0 0 11 0
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## 103

[JULY 19.

**TO DIRECTORS AND MANAGERS OF RAILWAYS.**—  
The WRITER is desirous of obtaining a SITUATION under a RAILWAY COMPANY.

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OFFICE, No. 35, MOORGATE-STREET.

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1. The first part of the paper is devoted to the study of the properties of the function  $f(x)$  defined by the equation



# **BIRKENHEAD AND HOLYHEAD JUNCTION, AND MOLD EXTENSION RAILWAY, WITH ITS BRANCHES.**

Capital £100,000, in 50,000 shares, of £20 each.—Deposit £1 12s. 6d. per share.

## **EXECUTIVE COMMITTEE.**

CHAIRMAN—CORNELIUS RANDALL, Esq.  
VICE-CHAIRMAN—JOHN FINCH, Esq.  
Charles D. Archibald, Esq.  
William Byrom, Esq.  
James Duncan, Esq.  
Wm. Newton, Esq.

## **PROVISIONAL COMMITTEE.**

Charles D. Archibald, Esq. F.R.S., F.S.A., &c. York-terrace, Regent's-park, and  
Walney, Ulverston, a director of the Great North and South of France, Tean  
and Dove Valley, and Furness and Windermere Railways, a deputy-lieutenant  
of Lancashire  
James Thomas Bourne, Esq. Liverpool  
William Byrom, Esq. Oldham  
William Thomas Cox, Esq. Spondon, Derbyshire, a director of the Derby and  
Crewe, and Tean and Dove Valley, and Eastern and Western Junction Railways  
Samuel Walker Cox, Esq. Bransdale Lodge, Derbyshire, a director of the Tean  
and Dove Valley, and Eastern and Western Junction Railways  
Richard Congreve, Esq. Burton Hall, Cheshire  
J. H. Campbell Dicker, Esq. New Hall, Neston, Cheshire  
Thomas A. Dale, Esq. Hamilton-square, Birkenhead  
Sir Richard Dobson, F.R.S. 47, Gloucester-place, Portman-square, London  
James Duncan, Esq. Liverpool  
J. Formby, Esq. Formby Hall, Lancashire, and Newhouse, Hoylake, Cheshire  
John Finch, Jun. Esq., and Edward Finch, Esq., of the firm of Messrs. John  
Finch and Sons, Iron-merchants, Liverpool  
Joseph Gilliam, Esq. Hargreaves House, Oldham  
George Graham, Esq. Preston, a director of the Liverpool, Ormskirk, and  
Preston, and 'reton and Newcastle Railways  
Thomas Jevons, Esq. Liverpool, and Venall Iron-works, and Blaengwrach,  
Venall, and Forchough Collieries, a director of the Great Eastern and Western  
Railway  
John Little, Esq. Derby House, Manchester  
Sir Duncan Macdonald, 94, Eaton-square, London  
Sir William Maguay, Bart. alderman, and late Lord Mayor of London, a di-  
rector of the Great North and South of France Railway  
William Newton, Esq. Dawson, Heasell, Cheshire  
John Ormiston, Esq. Flint  
Jephtha Pacey, Esq. Po-yon, Cheetham Hill, Manchester  
Samuel Perrott, Esq. Liverpool  
James Bailie Pender, Esq. Edinburgh, a director of the Edinburgh and Peebles  
Railway  
Cornelius Randall, Esq. Manchester, a director of the Sheffield and Manchester  
and Huddersfield Railways  
William Robinson, Esq. Lancaster, a director of the North Western Railway  
Frederick Ramaden, Esq. Seymour House, Old Trafford  
William Sharp, Esq. Linden Hall, Lancashire, a director of the North Western  
Railway  
George Tell, Esq. Albert-road, Regent's-park, London  
John Thompson, Esq. Wigan, and Fwd Iron-Works, near Wrexham  
John Tomkinson, Esq. Liverpool  
Edward D. de Vile, Esq. Lancaster, a director of the North Western Railway  
Sir William Young, Bart. 7, Westbourne-street, Hyde-park-gardens, London, a  
director of the Honourable East India Company  
(With power to add to their number.)  
Engineers—Messrs. Gaudell and Brunton, Birkenhead.  
Solicitors.  
Messrs. Rowley and Taylor, Manchester  
W. Sharp, Esq. 3, Verulam-buildings, Gray's-inn, London  
J. S. Porter, Esq. Birkenhead

## **BANKERS.**

Union Bank of Manchester  
Ulton Bank of Liverpool  
North and South Wales Bank, Birkenhead  
Messrs. Cunliffe, Brooks, and Co. London

## **PROSPECTUS.**

This line of railway commences at the docks forming at Birkenhead, and pro-  
ceeding from thence by or near to Bidston, Moreton, Hoylake, West Kirby, Thur-  
ston, Heasell, to Parkgate. It strikes across the River Dee to Flint, where it forms  
a junction with the Chester and Holyhead Railway, from whence it is carried to  
Mold along the valley of the Conway Brook.

From the main line it is proposed to form two branches, one diverging there-  
from at Wallasey to New Brighton; another from some convenient point at or  
near Parkgate or Neston, to connect itself with the Birkenhead, Manchester, and  
Cheshire Junction Railway, at or near Little Sutton.

Upon the importance of providing a direct railway communication between the  
manufacturing districts of Lancashire, the large commercial port of Liverpool, and  
the town of Birkenhead, rapidly rising to eminence, and the rich mineral district  
of North Wales, and the port of Holyhead, little need be said to recommend to the  
public a line of railway having for its object these great advantages. This line of  
railway has, therefore, been projected not only with the view of supplying the  
cheapest, most direct, and best means of communication between the ports of Holy-  
head, Birkenhead, and Liverpool, but also for the purpose of affording a ready means  
of transit and shipment for the produce of the great coal-fields, and rich mineral  
districts of North Wales, now entirely devoid of railway communication.

By means of this line of railway, a considerable reduction of distance, to the ex-  
tent of eleven miles over all existing and projected lines, and a consequent saving  
of time and expense will be effected between Holyhead, Birkenhead, Liverpool, and  
the manufacturing districts of Lancashire, and this coupled with the fact of the ter-  
minus of the line adjoining the new docks forming at Birkenhead, and thereby ma-  
terially lessening the cost of transhipment of merchandise cannot fail to make it  
the cheapest and most preferable medium for the conveyance of passengers and  
merchandise between these ports.

To the towns of Mold, Flint, Bagillt, Holywell, and the districts surrounding  
them, this undertaking must ensure the most incalculable advantages by opening,  
to their rich mineral productions, a ready and cheap access to the important markets  
of Liverpool, Birkenhead, and Manchester; and, on the other hand, great benefit  
will accrue to these markets by the conveyance thither of iron, copper, lead, zinc,  
slate, coal, and lime, at a very moderate cost. Should this line of railway be formed,  
the promoters are confident that the articles of coal and lime alone, of which the  
consumption is very great, would yield a very large and profitable return on the  
capital to be invested; coal could be delivered in Birkenhead, or shipped in the  
Mersey at one-third less price than it is now sold at, and lime, which is now sell-  
ing at 20s. per ton at Birkenhead, after paying an ample return for its conveyance,  
could be delivered at 12s. per ton.

With respect to the passenger traffic likely to come upon this line of railway, it  
is sufficient to state, that it will form a portion of the high road for travellers be-  
tween Liverpool, Lancashire, and Ireland; and in addition thereto a considerable  
accession of traffic may fairly be reckoned upon from persons visiting the delightful  
and picturesque Vale of Clwyd and the grand and mountainous scenery of North  
Wales; as also by rendering to the inhabitants of Liverpool, Manchester, and the  
manufacturing districts of Lancashire, an easy access to those much favoured and  
delightful watering-places—Parkgate, Hoylake, Rhyl, &c.

The branch line from Parkgate or Neston to join the Birkenhead, Manchester,  
and Cheshire Junction Railway, at or near Little Sutton, also forms a most im-  
portant feature in the undertaking, as by that means a direct communication will  
be opened between Manchester and the manufacturing districts of Lancashire,  
North Wales, and Holyhead.

Off Hilbre the channel is deep and easy of access. The late Mr. Telford, in a sur-  
vey that he made of the River Dee, gave it as his opinion that it was the place most  
eligible for a harbour. Should it be deemed desirable hereafter to construct a dock  
and harbour of refuge at this place, a branch line may be formed, which would con-  
nect it at once with Birkenhead and Liverpool.

By following the coast line from Birkenhead to Parkgate but a small outlay will be  
required for the formation of the railway, and indeed the engineering works of the  
whole line are very slight, with the exception of the crossing of the River Dee, from  
Parkgate to Flint, and this part of the undertaking requires a more detailed notice.

It is proposed to cross the Dee from Parkgate to Flint, where the river forms it-  
self into a narrow channel, at or near the last-mentioned place; the rest of the  
distance between the Welsh and Cheshire coast being a large sandbank, seldom  
wholly covered by the sea, even at high water, and at low water passable by per-  
sons on foot. This crossing will be effected without difficulty, either by means of  
an embankment or by a viaduct upon piles, which ever mode may be considered  
the more advantageous to the company; but should arrangements be made with  
parties having existing interests in the land to be reclaimed, the former mode will  
be adopted. It is contemplated to extend the present new channel formed by the  
River Dee Company from Connah's Quay to Flint, to form at Flint a tidal basin, ca-  
pacious locks, and a railway across these locks by means of swing bridges, and thus, at a very trifling cost, upwards of 8000 acres of land will  
be reclaimed, and a continuous and uniform depth of water and means of constant  
communication will be kept up between Chester and Flint for vessels of a large  
burden.—The line of railway will not interfere with any park like or other orna-  
mental grounds.

No detailed estimates of traffic have yet been taken; but the promoters are in  
possession of sufficient statistics to say that, looking at the various sources of traffic  
as above detailed, which must necessarily flow upon this line, they may with con-  
fidence anticipate that a return of at least 8 per cent. may be fairly expected on the  
outlay.

It may be well to state, that, in estimating the cost of this railway, no deduction  
has been made on account of the great value of the land to be reclaimed from the  
Dee; this must necessarily be a matter for arrangement.

Messrs will be taken to obtain an Act of Parliament in the next session, with the  
usual clauses for restricting the liability of each shareholder; and it is proposed to  
allow interest on the paid-up capital.

Applications for shares to be made in the subjoined form to the solicitors for the  
company, or to Mr. W. G. Seed, sharebroker, Spring-gardens, Manchester, and  
Messrs. Fletcher and Sharp, sharebrokers, 14, Exchange-buildings; and Mr. G. A.  
Brown, sharebroker, Druid-court, Dale-street, Liverpool.

## **FORM OF APPLICATION.**

To the Provisional Committee of the Birkenhead and Holyhead Junction and Mold  
Extension Railway, with its Branches.

Gentlemen,—I request you will allot me shares, of £20 each, in the above  
undertaking, and I hereby agree to accept such shares, of any less number which  
may be allotted to me, and to pay the deposit thereon, and also to execute the Par-  
liamentary contract and subscribers' agreement when required to do so.

I am, gentlemen, yours, &c.,

Name in full .....  
Profession or trade .....  
Residence .....  
Reference .....

Date, .....

**BIRKENHEAD AND HOLYHEAD JUNCTION, AND  
MOLD EXTENSION RAILWAY, WITH ITS BRANCHES.**—Notice is hereby  
given, that NO APPLICATION FOR SHARES IN this company will be received after  
FRIDAY, the 25th inst., immediately after which the allotment will be proceeded  
with.

By order, ROWLEY & TAYLOR.

Solicitors to the Company.

# **DUTCH RHENISH RAILWAY, FROM AMSTERDAM AND ROTTERDAM, THROUGH UTRECHT TO ARNHEM, AND THE PRUSSIAN FRONTIER, NEAR EMMERICK.**

Capital 24,000,000 florins, or £4,800,000, in 100,000 shares, of 240 flor., or £20, each.

## **MEMBERS OF THE GENERAL DIRECTION.**

COMMISSARIES.  
PRESIDENT—His Excellency GERARD COITTE SCHIMMELPENNINGK,  
Minister of State, Commander of the Order of the Netherlands Lion, Member of  
the First Chamber of the States General, Hague  
His High Mightiness Edmond William Van Dam Van Iselt, Chevalier of the Mil-  
itary Order of William, Commander of the Order of the Netherlands Lion, Member  
of the Second Chamber of the States General, Rotterdam  
His High Mightiness Peter Huidkoper, Commander of the Order of the Netherlands  
Lion, Member of the States for North Holland, Burgomaster of Amsterdam,  
Amsterdam  
Abel Lewes Gower, Esq. London  
The Noble Signior Peter Arriens, Chevalier of the Military Order of William, Com-  
mander of the Order of the Netherlands Lion, Chevalier of the Order of St. Anne  
and of the Sword of Sweden, Vice-Admiral, Adjutant to his Majesty the King of  
the Netherlands, Hague  
The Noble Signior J. G. W. Merkes Van Gendt, Chevalier of the Order of the Netherlands  
Lion, Officer of the French Legion of Honour, Chevalier of the Order of St.  
Anne, Adjutant to his Majesty the King of the Netherlands, Major in the Engi-  
neers, Haguenau  
His High Mightiness Abram Van Ryckevorsel, Chevalier of the Order of the Nether-  
lands Lion, ex Member of the Second Chamber of the States General, Member of  
the Municipal Council and of the Chamber of Commerce of Rotterdam, Commis-  
sary of the Netherlands Trading Company, Rotterdam  
Chas. Devaux, Esq. director of the Amiens and Boulogne Railway Co., London  
Frederick Ricketts, Esq. chairman of the Bristol and Exeter Railway, London  
His High Mightiness Jean Jacob Adolphe Alexander Baron Van Palland, Chevalier  
of the Order of the Netherlands Lion, Member of the States of Guelderland, Bur-  
gomaster of Arnhem, Arnhem  
The Noble Signior J. Frederik Hoffman, Chevalier of the Order of the Netherlands  
Lion, Member of the Provincial States of South Holland, Burgomaster of Rotter-  
dam, Rotterdam  
The Noble Signior Nich. Peter Jacob Klen, Chevalier of the Order of the Netherlands  
Lion, Member of the Provincial State of Utrecht, Burgomaster of Utrecht, Utrecht  
The Noble Signior Peter H. Tromp, Deputy Burgomaster of Rotterdam, Rotterdam  
The Noble Signior Jacob Rau Van Gamen, Chevalier of the Order of the Nether-  
lands Lion, Vice-President of the Provincial Council of Guelderland, Arnhem  
The Noble Signior Louis Van Mesritz, Chevalier of the Order of the Netherlands  
Lion, Ins. ector-General of the Treasury of the Kingdom, Administrator of the  
Domains of his Majesty the King of the Netherlands, Hague  
Thomas Wilson, Esq. Chevalier of the Order of the Netherlands Lion, Haarlem  
John Masterman, Jun. Esq. director of the Northern and Eastern Railway, London  
John Moss, Esq. chairman of the Grand Junction Railway, Liverpool  
The Noble Isaac Jacob Ruchassen, Chevalier of the Order of the Netherlands Lion,  
Registrar of the Tribunal of Amsterdam, Amsterdam  
M. G. C. Bosch Reitz, Amsterdam  
The Noble Signior David Abraham Portielje, Advocate and Judge of the Tribunal  
of Commerce at Amsterdam, Amsterdam  
(With power to add to their number.)

## **DIRECTORS IN HOLLAND.**

M. Leon Jean Enthoven, Chevalier of the Order of the Netherlands Lion, Hague  
John W. Wilson, Esq. Haarlem  
M. Loe Spilger, Amsterdam  
M. Leo Lippmann, Consul General for the Grand Duchy of Luxembourg, Amsterdam  
M. Arnold Kroy, Amsterdam  
M. Fred. Corneille Zilleen, Chevalier of the Military Order of William, Amsterdam  
M. Van Oostveen, Chairman of the Cadastre, Arnhem  
M. Ch. G. Schultze Van Houten, Rotterdam

## **DIRECTORS IN LONDON.**

William James Chaplin, Esq. chairman of the South-Western Railway Company  
Henry John Enthoven, Esq.  
Matthew Uzielli, Esq. director of the South-Western Railway Company  
Gregory Seal Walters, Esq.

COUNSELLORS AND SOLICITORS IN AMSTERDAM.  
Mr. S. P. Lipman, Chevalier of the Order of the Netherlands Lion, and of the French  
Legion of Honour; Mr. H. A. Hartogh.  
COUNSELLOR AND SOLICITOR AT THE HAGUE.  
Mr. P. S. Schooneveld, Member of the States General, and Chevalier of the  
Netherlands Lion.

Solicitors in London—Messrs. Crowder and Maynard.  
Bankers in London—Messrs. Masterman, Peters, and Co.  
Bankers in Liverpool—Messrs. Moss and Co.  
Bankers in Amsterdam—The Associate Cassa.  
Consulting Engineer—Joseph Locke, Esq.

SECRETARY IN HOLLAND.  
M. Jean Charles S. Jacob, Secretary of the Chamber of Commerce, Amsterdam.  
SECRETARY (PRO TEM.) IN LONDON.  
Ed. Aimé, Esq., No. 62, King William-street, City.

London, July 11, 1845.  
The grant of this important line of railway was made to the concessionaires by  
conventions, dated the 16th of May last, duly signed between them and his Exce-  
lency the Minister of the Interior, ratified by his Majesty the King of the Nether-  
lands, and gazetted on the 20th of the same month.

Its entire length will be about 163 miles, of which twenty-two miles (from Amster-  
dam to Utrecht) were opened in December, 1844, and a further length of thirty-six  
miles (from Utrecht to Arnhem) on the 14th of May last, leaving still to be com-  
pleted the portion from Rotterdam to Utrecht (thirty-one miles), and from Arnhem  
to Emmerick (twelve miles), with two miles of branch lines to the Entrepot Dock  
at Amsterdam and the river at Rotterdam.

The duration of the grant is for about fifty-three years, terminable at the close of  
1898, at the expiration of which period it is to be renewed for twenty-five years,  
unless the concessionaires, by succeeding twenty-five years, unless the Government give  
notice of their intention to take it into their own hands, in which case the entire cost  
of construction, including land, and also any outlay for improvements and addi-  
tions which may hereafter be made, are to be repaid in full. The whole of the work-  
ing and other stock is to be taken at a fair valuation—thus rendering unnecessary  
any sinking fund to replace the capital. The Government have no power to re-  
purchase until the year 1898.

There will be no tunnels on this railway, and it will be all but level, except for  
about 300 feet in ascending to Arnhem, where the steepest gradient is only 1 in  
300. The broad gauge of 6 feet has been adopted. The whole portion of the line  
hitherto made, including stations and working stock, has been executed in a very  
superior manner, under the able direction of the chief Government engineer of the  
Ponts and Chaussées in Holland.

The tariff, both for passengers and for goods, is higher than in Belgium or in  
France, and the wealth and general habits of comfort of the Dutch people are found  
to produce a much larger proportion of first and second over third class passengers  
than in those countries.

The railway will have for its western termini the densely-populated and rich  
trading cities of Amsterdam and Rotterdam, and will traverse provinces containing  
1,526,000 inhabitants. Some idea of the extent of the local passenger traffic may be  
derived from the fact, that 300,000 passengers were conveyed, in 1844, between Am-  
sterdam and Utrecht (the portion then opened), whilst the receipts upon the same  
portion have nearly doubled during the corresponding months of the present year,  
and a considerable augmentation will now be realised, as the line is open to Arn-  
hem, the favourite resort of the wealthy inhabitants of Amsterdam and Rotterdam.  
The imports into Amsterdam and Rotterdam amounted in 1844 to 943,725 tons, and  
the exports to 889,657 tons, and their East and West India trade alone employed  
330 large vessels.

Of this immense goods traffic a large proportion must come upon this railway, in  
consequence of the long and frequent stoppages to which the canal and river naviga-  
tion is constantly subject from frost in winter, and the want of water in summer,  
whilst the unequal and gradual gradient of this railway will enable it to carry goods at  
a low rate, and all the expenses of loading, carting, unloading, &c., will be saved  
by its having a branch line to the water's edge at the river at Rotterdam, and to  
the docks at Amsterdam, so as to load and unload goods direct from or into the ves-  
sels and railway waggon.

It will be seen, by reference to the map, that, by means of this line and of the Over  
Yssel Railway, which joins it at Arnhem, a direct and unbroken railway commu-  
nication will be established from Amsterdam, Rotterdam, the Hague, and Utrecht,  
to the North of Holland, and thence, by the various German railways, to the inter-  
ior of Europe, embracing the important populations of Hanover, Brunswick, Prus-  
sia, Austria, Bavaria, Saxony, and the other German states; and the great capitals  
and commercial cities of Berlin, Vienna, Munich, Dresden, Leipzig, Hamburg,  
Danzig, Magdeburg, Stettin, Frankfurt on the Oder, Munster, &c. The south of  
Germany, Switzerland, Italy, and the Mediterranean, will also have a direct rail-  
way communication with the capital and principal towns of Holland by means of  
the line with which this railway will have from Arnhem to Emmerick, whence  
another continuous line to Cologne, the Great Rhine Railway to Cologne, Frank-  
fort-on-the-Maine, Karlsruhe, Baden, &c.

By the arrangements which have been made, the concessionaires transfer the  
railway to this company for the sum of 11,895,317 7/2 florins (somewhat under  
£1,000,000 sterling), being the amount actually expended in its construction, in-  
cluding the interest paid upon the capital employed, but giving credit for the receipts  
during and subsequent to its construction, as ascertained by commissioners ap-  
pointed under a Royal Commission, dated October 22, 1844. Of this sum 9,000,000  
florins were raised by loan, as will be presently noticed.

The concessionaires have paid a deposit of 500,000 florins as caution money, which,  
with other sums advanced, will have to be reimbursed to them by the company.  
The deposit will be returned to the company on the completion of the railway.

The statutes constituting this company a "Societe Anonyme," upon the terms  
before referred to, and regulating its proceedings, received the Royal sanction on  
the 1st inst., and the whole capital was thereupon subscribed.

The company, in all respects, the holders of the loan notes for the  
loan of 9,000,000 florins. Under the terms of that loan it is to be repaid at 104 per  
cent., but only out of the actual profits of the line from Amsterdam to Arnhem, of  
which a separate account will, therefore, be kept. In the mean time the loan note  
holders receive interest at 4 per cent. per annum, and, in addition are entitled to  
one-fourth of the net profits of that portion of the line, and the other three-fourths  
are to be applied in liquidation of the loan notes to be determined by lot.

The company have power to buy up the loan notes, and it is provided that, in the  
mean time, the amount of any loan notes which have been paid off out of profits  
may be replaced out of the capital of the company, so as to make those profits ap-  
plicable to a dividend amongst the shareholders, inasmuch as the principal so paid  
off will be ultimately receivable from the Government in the event of the repurchase  
of the railway.

In settling with the concessionaires, the company will at once be credited for the  
9,000,000 florins, and will have to pay only the balance, so that it will not be neces-  
sary to call for the 9,000,000 florins, except as it may be paid off to the loan note  
holders.—A deposit of 38 florins, or £2 per share, is payable within one month from  
the date on which the statutes received the Royal sanction; a further instalment of  
24 florins, or £2 per share, is payable within two months afterwards.

Provisional receipts will be given for the first and second payments to be ex-  
changed for certificates, after a resolution to that effect shall have been published  
by the Court of General Direction; and when the full amount of the shares is paid  
up, the shares will be either to bearer, or to the holder, by name, at his option.

Further calls, of not more than 10 per cent. each, will be made at intervals of not  
less than three months, and with not less than one month's notice.

In case of default being made in any of the payments before referred to, the shares  
will be subject to forfeiture, or to be sold at the risk of the proprietor, at the option  
of the directors.

The shareholders are exempted from all liability beyond the amount of their shares,  
and will be altogether exempted upon their shares being at any time transferred to  
others. The net profit will be divisible as follows:—5 per cent. per annum to the  
shareholders upon the paid up capital.

Of the residue:  
2 40ths parts will be set apart as a reserve fund for extraordinary emergencies,  
until the same amounts to 500,000 florins (about £40,000);  
2 40ths will be paid to the concessionaires;  
2 40ths to the directors;  
2 40ths to the other members of the general direction;  
1 40th to the engineer director and the other employees, at the discretion of the  
court of general direction; and the remaining  
30 40ths will be divided rateably amongst the shareholders, and will be augmented  
to 32 40ths, when the reserve fund is complete.

A copy of the statutes may be seen at the offices of Messrs. Crowder and May-  
nard, solicitors, 57, Coleman street; of Messrs. S. P. Lipman, and H. A. Hartogh,  
at Amsterdam; of Mr. P. C. Schoneveld, at the Hague; of Mr. A. Veder, at Rotter-  
dam; and of Le Chevalier Nedemeyer Van Rosenthal, at Arnhem.

**DUTCH RHENISH RAILWAY.**—Notice is hereby given,  
that NO APPLICATION FOR SHARES CAN BE RECEIVED.  
By order, ED. AIMÉ, Secretary pro tem.

62, King William-street, City, July 16, 1845.

# **CENTRAL RAILWAY OF FRANCE—ORLEANS TO VIERZON, &c.**—Notice is hereby given, that such SHARES on which the FIRST CALL of 100 francs (due on the 2th of May last), shall NOT be PAID, with interest thereon, on or before the 24th of July, 1845, WILL BE SOLD PUBLICLY, on the Stock Exchange in Paris, on the 11th of August, 1845, for account and risk of whom it may concern.—Notice is further given, that another CALL of 100 francs per share will become due on the 15th of August, 1845, and that a dividend of 1 7/8 per share, for interest to the 1st of July, 1845, has been declared. For effecting the payments of the calls, and receipt of interest dividends, application must be made at the company's offices in Paris, or at the counting-house of Messrs. C. Dugay and Co., 62, King William street, City.—London, July 17, 1845.

By order, ED. AIMÉ, Secretary pro tem.

62, King William-street, City, July 16, 1845.

# **STRASBOURG AND PARIS RAILWAY COMPANY.**

Temporary Offices, 4, Great Winchester-street, London, July 14.

The Projet de Loi for the above line of railway having now passed both the French  
Chambers, the formation of branches to Rheims, Metz, and Saar-  
bruck, the directors have the pleasure to announce that they have effected a junction  
with the powerful company of the Comte de Monthlon (which already has four-  
fifths of the capital subscribed), together with other influential individuals in France,  
and that a board of directors has been formed, consisting of the following persons:

PRESIDENT—M. le Lieutenant General Comte de MONTHLON, Pair de France  
M. le Comte Anatole de Montequival, Pair de France  
M. le Comte Alexis de Saint Priest, Pair de France  
M. Croissant, Deputé de la Meurthe  
M. Champaguet, Deputé  
M. Husson, Colonel de la 6me. Legion, Membre du Conseil General de la Seine  
M. Saint Elme Petit, ancien élève de l'Ecole Polytechnique  
M. Jules Bechet, aine, ancien Banquier  
M. Ernest Bechet, Banquier  
M. le Comte de la Roche Ponchin, Marechal de Camp

## **ADJUTANTS GENERAUX HONORAIRES.**

M. le Lieutenant General Comte Lagrange, Pair de France  
M. Herve, Conseiller a la Cour de Cassation, Deputé  
M. Jules Lefebvre, Propriétaire  
M. le Comte de Singly, Propriétaire  
M. le Comte Amiral de Hell, Prefet Maritime de Cherbourg, Deputé du Bas Rhin  
M. Denis, Deputé du Var  
M. le Comte Grzymala, Fondateur de l'Entrepot General du Commerce  
M. Gabriel Heim, Gerant de l'Entrepot General du Commerce et des Trans-  
ports du Chemin de Fer du Rouen et de Havre

## **DIRECTEUR PROVISOIRE.**

M. Bessas Lamegie, ancien Maire du 10me. Arrondissement

## **ENGLISH DIRECTORS.**

George Alexander Hamilton, Esq. M.P., chairman of the Dublin and Drogheda  
Railway, and deputy-chairman of the Dublin and Belfast Junction Railway  
The Hon. R. Howe Browne, chairman of the Manchester and Birmingham and  
Welsh Junction Railways  
Sir George Rich  
Colonel James Grant  
Captain Thomas Dickenson, R.N.  
Augustus W. Hillary, Esq. } Resident Directors in France.  
George P. Irving, Esq.  
George Brown, Esq.  
Thomas C. Hamilton, Esq.

## **BANKERS—The London and Westminster Bank.**

SOLICITOR—George Ogil, Esq., 4, Great Winchester-street, City.

In consequence of the determination of the French Government to form these  
branches it has become necessary to increase the capital of the company, which  
will now consist of 125,000,000 francs, or £25,000,000, divided into 250,000 shares of  
500 francs, or £20 each. Deposit £2 per share.

Applications for shares will be received on or before Thursday, the 24th instant,  
after which no further application can be attended to, as the time for offering to  
compete for the line is limited; and the French directors have expressed themselves  
prepared to take all shares not disposed of in England before that day.

Prospectuses and forms of application may be obtained at the temporary offices  
of the company, 4, Great Winchester-street, and of the following brokers:—Messrs.  
Cardwell and Sons, Manchester; Mr. Crowdon, Liverpool; Mr. James Butchart,  
Huddersfield; Mr. Jamieson, Leeds; Mr. Henry Halliday, Mr. Dickenson, New-  
castle-upon-Tyne; Messrs. Colliers and Flint, Hull; Mr. James Jardine, Glas-  
gow; Messrs. Monro and Co., Edinburgh; Mr. William Sotherton, York; and Mr.  
William Oliphant, Perth.

# **GLOUCESTER, ABERYSTWTH, AND CENTRAL WALES RAILWAY, AND THE IMPROVEMENT OF THE PORT AND HARBOUR OF ABERYSTWTH.**

(Provisionally Registered, pursuant to the 7th and 8th Vic., cap. 110.)  
Capital £1,250,000, in 50,000 shares of £25 each.—Deposit £1 7s. 6d. per share.

## **PROVISIONAL COMMITTEE.**

His Grace the Duke of Newcastle, K.G.  
The Right Hon. the Earl of Lisburne, Crosswood Park, Aberystwith  
The Hon. A. F. Berkeley, Spring-gardens  
Captain Beamish, 16, Kensington-square, and Maes Mawr  
General Sir Loftus Otway, K.C.B., 13, Grosvenor-square, and Cwm Elam,  
near Rhayader

Arthur Macnamara, Esq. Llanged Castle, Hay, and Caddington Hall,  
Dunstable, Bedfordshire  
The Venerable Archdeacon Venables, Llysindan Hall, Builth  
T. Fuller Maitland, Esq. Garti House, near Builth, and Park-place, Hen-  
ley-on-Thames

Lieut. Colonel Crutenden, R.A., 13, Percy-street, Bedford-square  
John Nichol Carme, Esq. L.D., Diamond House, Cowbridge, Glamorganshire  
The Rev. G. A. Blakeley, M.A., Kinnerton, Radnorshire  
Marmaduke Gwynne, Esq. Llancwilly Hall, Builth  
Major Lindam, K.H., St. Alban's Hotel, Charles-street, St. James's  
Colonel Powell, Harwick, Herefordshire

Rev. Thomas Powell, M.A., Vicar of Dorstone, Herefordshire  
William Sneed, Esq. Gasbury, Radnorshire  
Louis Alfred Hill, Esq. 29, Lombard-square  
Conway V. Lovey, Esq. Jun., Cothorne, Charlton Kings, Cheltenham  
William Prosser, Esq. Jun., 13, Windsor terrace, Piccadilly

John Barber, Esq. The Old Court, Bosbury, Herefordshire, and Lincoln's Inn  
Captain Samuel Price, R.N., Senior United Service Club  
Edward David Thomas, Esq. Weild House, Radnorshire  
Thomas Thomas, Esq. Fenkerrig, Radnorshire

Thomas Turner Roberts, Esq. Lwender, Breconshire  
George Donkin, Esq. Wyfold Court, Oxfordshire  
William Theodore Elliott, Esq. Cowper House, Brompton  
Charles White, Esq. Willenden, Middlesex

Captain Edmund Norcott, R.N.  
Tomkyns Dewar, Esq. Whitney-court, near Hereford  
Thomas Pickard, Esq. Diderw, Rhayader  
C. Parsons



# EAST AND WEST OF ENGLAND JUNCTION RAILWAY, FROM NORTHAMPTON TO CHELTENHAM.

(Provisionally Registered.)  
Capital £800,000, in 32,000 shares of £25 each.—Deposit £1 7s. 6d. per share.

## PROVISIONAL DIRECTORS.

The Hon. Howe Browne, chairman of the Manchester and Birmingham, and Welsh Junction Railway  
Sir Edwin Pearson, F.R.S., Gloucester-terrace, Regent's-park  
John Stewart, Esq., M.P. for Lymington  
David Alnsworth, Esq., Manchester  
James Henry Attwood, Esq., Seymour-street, Portman-square, director of the North London Railway  
J. Bagshaw, Esq., Gloucester-place, director of Northern and Eastern Railway  
George Bishop, Esq., South Villa, Inner Circle, Regent's-park, director of the North London Junction Railway  
William Edward Boyes, Esq., Banbury, director of the Birmingham and Oxford Junction Railway  
Samuel Brown Brittain, Esq., director of the Manchester, Sheffield, and Midland Railway  
Joseph Brown, Esq., director of the Trent Valley Continuation Railway  
John Burgess, Esq., boroughreeve, Manchester  
Aaron Gould, Esq., Forest of Dean  
Samuel Haines, Esq., Birmingham  
William Hayley, Esq., Manchester  
Joseph Hodgson, Esq., Exeter  
William Jacobson, Esq., Huddersfield  
Charles Kelson, Esq., Cheltenham, and of Teignmouth, banker  
E. Fuller Maitland, Esq., Park-place, Henley-on-Thames  
Robert F. Mushet, Esq., Forest of Dean, Gloucestershire  
David Mushet, Esq., Cheltenham  
Wm. Nash, Esq., chairman of the Brighton, Lewes, and Hastings Railway  
Wm. Page, Esq., director of the Manchester, Sheffield, and Midland Railway  
George Parry, Esq., Russell square, director of the Manchester and Birmingham Continuation and Welsh Junction Railway  
George Rougemont, Esq., Chester-terrace, Regent's park  
Major Charles Jasper Selwyn, of the Royal Engineers, Exeter  
Joseph S. S. W. Esq., Huddersfield, director of the Eastern Union Railway  
Joseph Thompson, Esq., director of the London and Brighton Railway  
John Walker, Esq., Manchester  
Robert Watkins, Esq., director of the Brighton and Chichester Railway  
(With power to add to their number.)  
Solicitor—John Bethell, Esq., 79, King William-street, City.  
Secretary—Robert Watkins, jun., Esq.

The object of this undertaking is to complete the railway communication from the Bristol Channel to the North Sea, by constructing a line of railway between Cheltenham and Northampton, thus opening the whole resources of South Wales, and the west of England, to the north-eastern and eastern counties, in the most direct and shortest course, and in a line with the existing traffic.

On reference to the map of England, it will be seen, that by the present railways, and others in the course of formation, all the traffic from Lincoln, Boston, Wisbeach, King's Lynn, Norwich, and Yarmouth, will be brought to Northampton; and on the west side of England, the railways from Cornwall, Plymouth, Exeter, and Bristol, and also from Flagstaff, Milford Haven, Swansea, Merthyr, Newport, Hereford, and all the south of Wales, will bring the traffic up to Gloucester and Cheltenham; and therefore, the importance of connecting Northampton with Cheltenham by this railway is most evident.

This railway will commence at Cheltenham, and proceed by or near Chipping Norton, Stow-on-the-Wold, to Banbury (where it will join the Oxford and Rugby line), and from thence to the London and Birmingham Railway, near Blisworth, there joining the Northampton and Peterborough Railway.

It will be seen, therefore, that this railway will form a main trunk line from the east to the west of England, and will connect the ports of Boston, Wisbeach, King's Lynn, and Yarmouth, with the ports of Gloucester and Bristol, by the shortest possible course, and afford great facilities for communication with the south of Ireland.

It will be the shortest and most direct route from all the northern countries of Europe, and the eastern and midland counties of England to the south of Ireland, and to Hantry Bay, or Valencia, from whence it is expected all the Post-office packets to India, America, and the West Indies will start, as soon as the Irish railways are completed. It will open the important copper, tin, iron, and coal districts of Cornwall, South Wales, and Gloucestershire, as well as the midland counties as with the eastern ports of England, for export to the northern countries of Europe.

The immense exports and imports to and from the south of Wales, and this country, to the north of Europe, would, by being more expeditiously and effectively carried on this line, traverse it in preference to the risk and uncertainty of a sea voyage round the coast; and the small cost of the construction of this line, and of those in connection with it, namely, the direct, mineral, and coal, to be carried by it at very low rates, and, consequently, a very large traffic will be created in the carriage of Welsh and Forest of Dean coals, the large iron produce of Wales, and the cloth goods of Gloucestershire, along this line to the eastern and midland counties, and to the eastern ports for export to the northern ports of Europe.

A great portion of the large quantities of corn now exported from the eastern ports, must find its way along this line to the western counties, and the produce of the south of Ireland will be brought by it to the eastern counties.

The proposed railway is much required by the local traffic of the populous districts through which it passes, and which will be found in itself sufficient to afford a fair return, but the vast augmentation of revenue which must arise from the through traffic, on the completion of this, the only remaining link, in the chain of railway communication across the country, must be of an extensive character, and will afford a most remunerative return on the capital invested.

The traffic on the Northampton and Peterborough line since its opening, has very far exceeded the expectations of that company.

There are no engineering difficulties, and the question as to width of gauge, is reserved for future consideration. Power will be taken in the Act, to allow interest, at the rate of 4 per cent., on the sums paid.

Application for prospectuses and shares may be made to the secretary, at the office, 79, King William-street, City, London, and the following shareholders:—Messrs. R. Sutton, Gribble, and Sutton, 22, north street, Royal Exchange; and Messrs. Barclay and Mercer, Shorter's-court, Throgmorton-street, London; Messrs. Houghland and Leese, 51, King-street, Manchester; John Wills, Esq., Royal Bank-buildings, Liverpool; Messrs. Wellbeloved and Oastler, Leeds; Messrs. Edwards and Son, Bristol; I. B. Lane, Esq., Birmingham; Messrs. Garton and Wright, Sheffield; J. G. Kershaw, Esq., Huddersfield; F. C. Spencer, Esq., Halifax; Messrs. Hall, Brothers, and Co., Cheltenham; George Moore, Esq., Banbury; and J. H. Sheppard, Esq., Towcester.

## FORM OF APPLICATION.

To the Provisional Committee of the East and West of England Junction Railway Company.

I request you will allot me shares, of £25 each, in the capital of the above-named railway, and I will accept the same or any less number, and pay the deposit of £1 7s. 6d. per share, and sign the Parliamentary contract and subscriber's agreement when required.—Dated this day of 1845.

Name .....  
Address .....  
Profession or Trade .....  
Reference .....

# GREAT CENTRAL SARDINIAN RAILWAY, ISLAND OF SARDINIA.

CONNECTING the important cities and towns of CAGLIARI, ORISTANO, SASSARI, PORTO TORRES, and intermediate towns, with  
BRANCHES TO IGLESIA and ALGERO.

Capital £3,000,000 (75,000,000 francs), in 60,000 shares, of £50 (1250 francs) each; with a reserve for Sardinia.—Deposit £1 5s. per share.

Should the full concession not be eventually obtained (which the committee have reasons to believe will be the case), the whole of the deposit will be returned except the necessary expenses; and in no case will those expenses be permitted to exceed 5s. per share.

## PROVISIONAL COMMITTEE.

President—The Duke LAURE DE MONTEFELTRO.  
Don Ludovico Lante della Rovere, Baker-street, Portman square  
Major James Adair, United Service Club  
Le Chevalier Gregoire de Berardi, Kensington Gore  
George Palmer, Esq., Bellevue, Chelsea  
Charles Staunton Cahill, Esq., Raiahi, county Clare, and 13, Austinfriars, Irish Drapery Commission  
Richard Clay, Esq., Lloyd's, and Winchester buildings  
John Chandler, Esq., Connaught-terrace, Hyde-park  
Colonel A. Findlay, K.H. Piccadilly  
Charles Goodwin, Esq., Battersea  
George Joyce, Esq., Camberwell  
Lawrence Kortright, Esq., Great Coram-street, Brunswick-square  
Benjamin Laing, Esq., Lloyd's  
F. Murray Macquenn, Esq., South-bank, Regent's-park  
Thomas Kewie, Esq., Harley-street, and Alice d'Arton, Paris  
John Gray Wilson, Esq., Oxford-terrace, Hyde-park, director of the Western Gaslight Company  
Engineer—William Henry Smith, Esq.  
Acting Engineer—Charles E. Barrington, Esq.  
Solicitors—Messrs. Hoppe and Boyle, Sun-court, Cornhill.  
Bankers—Messrs. Masterman, Peters, and Co.; and the Union Bank of London.

## Secretary—George Landels, Esq.

The most careful calculation, based upon official statistical reports, and the best information at present obtainable with regard to the traffic through the interior, show, after deducting 40 per cent. for working the line, a net revenue to the company of not less than 8s. to 10 per cent.

Prospectuses and forms of applications for shares may now be had at the temporary offices of the company, 80, King William-street, City; of the solicitors, Messrs. Hoppe and Boyle, Sun-court, Cornhill, or the following agents:—Messrs. Lind and Rickard, Bank-chambers, Lombard, London; Mr. James Owen Binger, Liverpool; Messrs. Cardwell and Co., and Messrs. Green and Oldham, Marriot's-court, Brown-street, Manchester; Messrs. Greyton and Earle, York; Mr. James Prince, Edinburgh; Messrs. Ridsdale and Co., Leeds; Mr. R. Clarkson and Mr. Charles Wales, Sheffield; Mr. P. V. Boulger, 5, Middle Gardiner-street, and Mr. Abel La-bertouche, Dublin; Mr. Joseph Clarke, Southampton; Messrs. Wilkinson and Earle, Hull; Mr. P. Stanford, Exeter; Messrs. Sommes and Tripp, Bristol; Messrs. J. and J. Kimpster, Newcastle-on-Tyne; Mr. James Hervey, Halifax; Messrs. J. Pollock and Co., Bradford; Mr. S. Collinson, Nottingham; Messrs. Hall Brothers, and Co., Cheltenham; Mr. William Miles, Worcester; Messrs. Lemon and Galbraith, Glasgow.

# GREAT CENTRAL SARDINIAN RAILWAY.—

NO APPLICATIONS FOR SHARES from London applicants will be received after the 17th, and from parties in the country after the 19th instant.

80, King William-street, July 9. By order, G. LANDELS, Sec.

# GREAT NORTHERN RAILWAY OF FRANCE—

LAFITTE'S COMPANY.—Notice is hereby given, that, in consequence of the provisions of the law just passed by the French Chambers, it has become necessary to DISSOLVE the COMPANY, and to CONSTITUTE a NEW COMPANY, under modified regulations. The shareholders are, therefore, required to acquaint the secretary, on or before the 31st inst., whether it is their wish to receive back the amount of their deposits, or to take the like amount of shares in the new company. In the latter case, it is absolutely necessary that the present receipts should, on or before the 31st inst., be sent to this office.—Forms of application may be had at this office on and after Friday, the 18th inst.  
62, King William-street, July 15, 1845. ED. AIME, Secretary.

# GREAT NORTHERN RAILWAY OF FRANCE—

LAFITTE'S COMPANY.—FRENCH ALLOTMENT.—The HOLDERS of the FRENCH LETTERS OF ALLOTMENT in this company are referred to the above advertisement, and desired to send their LETTERS, on and after MONDAY NEXT, to John Cunningham, 4, Castle court, Birch-lane, London, agent for Messrs. Lafitte, Blount, and Co., bankers to the company.  
London, July 19, 1845.

# GRAND UNION RAILWAY.—EXTENSION OF TIME

FOR SIGNATURE OF DEEDS.—Notice is hereby given, that the PARLIAMENTARY CONTRACT AND SUBSCRIBERS' AGREEMENT, will LIE FOR SIGNATURE at the OFFICES of the COMPANY, 78, Cornhill, until SATURDAY, the 26th inst., inclusive, between the hours of Ten and Four each day.  
By order, ALFRED BEESTON, Secretary.

# LINCOLN, YORK, AND LEEDS RAILWAY.

(PROVISIONALLY REGISTERED.)  
Capital £1,500,000, in 60,000 shares of £25 each.—Deposit £1 7s. 6d. per share.

In compliance with the wishes of a numerous and influential portion of the shareholders, the committee of management have come to the determination of forming a new company.

Its object will be to complete the communication from Lincoln to Doncaster, York, and Leeds, in continuation of the Cambridge and Lincoln line. A direct trunk line will thus be formed from London to York, Doncaster, and Leeds, reducing the present distances. It will form, both in distance and time, the shortest line between Lincoln and York.

The shortest line between Lincoln and Leeds;  
Ditto Lincoln and Doncaster;  
Ditto Lincoln and Selby;  
Ditto York and Selby;  
Ditto York and Hull.

The expenses incident to preliminary arrangements, and the formation of the company, have been secured, and, in case the legislature shall, in the present session, grant any line north of Lincoln, which may render this project unnecessary, the whole of the deposits will be returned.

When the new survey is completed, a detailed prospectus, with an enlarged and influential directory, will be published; and, in the meantime, applications for shares may be made, in the annexed form, to the solicitors, and to the following brokers:—London, Messrs. Peppercorne and Co., 2, Old street; Leeds, Messrs. Ridsdale, Mr. John Watson, Messrs. John Young and Co., and Mr. Richard Biney; York, Messrs. Graydon and Earle; Edinburgh, Messrs. McCallum and Co.; Liverpool, Messrs. Ridsdale and Chancery; Mr. James Pratt, and Mr. J. O. Binger; Derby, Mr. S. E. E. and Mr. J. Cuff; Hull, Messrs. Corless and Messrs. Collinson and Flint; Halifax, Mr. Hartley, and Messrs. Cresswell and Brook; Wakefield, Mr. Nightingale, and Mr. Charles Clapham; Blackburn, Mr. Booth; Manchester, Messrs. Cardwell and Sons; Bradford, Mr. Mason.

By order, JOHN BECKBURN, solicitor, Leeds.  
W. B. JAMES, solicitor, 6, Baughall street, London.

## FORM OF APPLICATION.

To the Provisional Committee of the Lincoln, York, and Leeds Railway.

I request that you will allot me shares of £25 each in the capital of the proposed Lincoln, York, and Leeds Railway; and I hereby undertake to accept the same, or such number of shares, not exceeding in number, as may be allotted to me, and also to pay the deposit thereon, and to sign the subscribers' agreement and the Parliamentary contract when required.—Dated this day of 1845.

Name .....  
Address .....  
Profession or Trade .....  
Reference .....

# ISLE OF JERSEY RAILWAY AND PIER COMPANY.

Capital £300,000, in 15,000 shares of £20 each.—Deposit £1 per share.

## PROVISIONAL DIRECTORS.

In Jersey—Colonel Le Couteur, Viscount, Chairman.  
In England—The Right Hon. Geo. Robt. Dawson, Chairman.  
Bankers—Messrs. Delisle and Co., Devonshire-square, London.

The applications for shares having far exceeded the very limited number at the disposal of the provisional directors, the lists will be finally closed on Wednesday next, the 23d instant. One-third of the shares are reserved for Jersey.

The undertaking combines the advantages of both the British and the French railway system, free from their several defects.

1. The law authorising its construction will be passed by the states of Jersey, and confirmed by the Privy Council, without the intervention of the British Parliament—thus avoiding the cost, risk, and delay of compliance with the Standing Orders of the two Houses, and of a prolonged Parliamentary inquiry and opposition.

2. The line will be vested in the company in perpetuity, and not, as in foreign lines, for a mere term of years. There will be no rivalry of competing companies, rendering it necessary to propose the lowest possible terms, as the promoters have received such unanimous support as to warrant them in regarding the most confident expectations of obtaining a most favourable grant from the states in the course of the present year.

3. The traffic, which has been recently taken, is unusually large, and there is every reason to believe that a return of 14 per cent. on the outlay may be calculated upon, as the works will be unusually light and inexpensive, and the landowners favourable. When it is considered that the port of St. Helier ranks sixth in the United Kingdom, and that this undertaking will command the greater part of the traffic to this country, as well as to St. Malo and France, the time occupied on the passage to and from England being thus reduced from seventeen to seven hours, it is clear that the passenger and light goods' traffic must be at once unusually large, and susceptible of every considerable increase. Arrangements will be made for insuring a cheap and improved communication between Southampton, Weymouth, Torquay, and Plymouth, within the time specified.

No subscriber will be liable beyond the amount of his shares, and 4 per cent. will be allowed on deposits and calls till the completion of the works. For further particulars the public is referred to the prospectuses, which may be obtained of the secretary, F. Struve, Esq., 1, Gray's Inn-square; and Messrs. Carden and Whitehead, Threadneedle street, London; and S. Woods, jun., Liverpool, to whom applications for shares, in the usual form, accompanied by a reference, are to be made.

# CHESTER AND MANCHESTER DIRECT RAILWAY.

(PROVISIONALLY REGISTERED.)  
Capital £800,000, in 16,000 shares of £50 each.—Deposit £2 15s. per share.

This line will commence at the city of Chester, and proceed by way of Frodsham within a short distance of Warrington, and thence by the Mersey Valley to Manchester. By the railways connecting Chester with Wrexham, Oswestry, Shrewsbury, Hereford, Gloucester, and South Wales, this will be the nearest route from Manchester to the south-western parts of England, and the minerals of Monmouth and Glamorgan, and the communication with Bristol, Gloucester, and Exeter, will be speedy and direct. On reference to the map it will be seen that a very considerable distance will be saved by this direct line over the present circuitous routes by Crewe or Birkenhead. As a line seeking to support itself from its own internal traffic it will be a first-rate investment. But it is intended that this line should be the precursor of a scheme of no ordinary importance—viz., the rendering Chester an efficient port for large vessels.

On the completion of the provisional committee, and preliminary arrangements on this line, a separate company will be formed for the construction of a ship canal from Dawpool to Chester, a distance of twelve miles; this is a matured plan.

It was entertained by Sir John Rennie in 1825, and subsequently by the late Mr. Chapman, in the same year, who wrote an able report on the subject, with a view of extending it to Manchester, as making an important town a seaport. The ground was afterwards, in 1837, surveyed by Sir John Rennie and Mr. George Remington, with a view to making a ship canal, of twenty feet water, to the walls of Chester; it is sixteen miles near to London than Liverpool, and as Chester, as a central point, and taking a radius of thirty-four miles, it will be seen that it includes Manchester and Warrington, Macclesfield, Congleton, the Potteries, Northwich, Nantwich, Tarporley, the whole of the mineral and manufacturing districts of North Wales in the vicinity of Chester, of the produce of which Chester is the natural port, but from the force of circumstances, superior enterprise, accommodation, &c., is carried, at extra expense, to Liverpool. From the decay of the Chester port at the trade of the north has concentrated itself into Liverpool, leaving Chester almost abandoned.

By a ship canal of twelve miles, commencing at Heswall, on the northern shore of the Dee, at the head of Dawpool, and continuing to Chester, during eight hours of tide, vessels drawing from fifteen to twenty feet water will be able to get to Chester. The estuary of the Dee to the head of Dawpool is infinitely preferable in point of access and safety to that of the Mersey.

This railway will, therefore, in connection with the ship canal, render to Chester and Manchester incalculable advantages. To the former it will restore the proper position natural to so important a city; to the latter it will give another outlet for the produce in now subject. It has not been thought advisable to combine the two objects in one company at present, but, should it be found requisite, the two may hereafter be amalgamated.

This railway will, therefore, have no ordinary merits as an independent undertaking, combining all the advantages of any other lines, with this great addition, that it will be the high road to what is the most convenient outport of Manchester. There are no difficult earthworks on the line; on the contrary, it will be cheap, and of easy formation.

The provisional committee will be published in a few days. In the meantime, applications for shares, prospectuses, &c., to be made to the solicitors, Messrs. Sir George Stephen and Hutchinson, 29, Moorgate-street; John Owens, Esq., 63, Moorgate-street, London; and Messrs. Higson and Robinson, and R. B. B. Cobbett Esq., Manchester.

## FORM OF APPLICATION FOR SHARES.

To the Provisional Committee of the Chester and Manchester Direct Railway.

Gentlemen,—I request you to allot me shares of £50 in the above railway, and I undertake to accept the same or such less number as you may appropriate to me, subject to the regulations of the company, and to sign the necessary deeds, and to pay, when required, the deposit thereon of £2 15s. per share.

Dated this day of 1845.  
Name in full .....  
Profession and professional residence in full ..  
Residence in full .....  
Reference .....

# WEXFORD, WATERFORD AND VALENTIA RAILWAY!

The committee of management take the earliest opportunity to inform the shareholders of this project, that they have received a most satisfactory report from their engineer, Mr. Gravatt, showing a total absence of engineering difficulties, and that the estimated cost for a double line of rails will not exceed £8000 per mile. The direct line between Wexford and Valentia being 131 miles, will connect the two seas, St. George's Channel and the Atlantic Ocean, at the most advantageous points of communication between England and America. The engineers are now surveying the line under the direction of Mr. Gravatt. Your committee deemed it advisable to make a slight deviation from the original plan, in order to make available the natural levels of the country, and to obtain a greater amount of traffic—thus affording immediate accommodation to a much larger population, preserving an independent line, and securing the sanction and support of the noble men and influential landed proprietors of the country through which it will pass.  
33, Old Jewry, July 7, 1845. By order, JAMES A. LIGHTON, Sec.

# GREAT INDIAN PENINSULAR RAILWAY COMPANY.

Capital £5,000,000, in 120,000 shares, of £50 each.—Deposit £3 10s. per share.  
NO APPLICATION FOR SHARES will be received after the 31st inst.—The provisional committee having reserved a portion of the capital for INDIA, the ALLOTMENT will take place after the RECEIPT of ADVICES from them.

Applications for shares to be made to Messrs. White and Borrett, 35, Lincoln's Inn-fields; or to Mr. L. M. Simon, stock and sharebroker, 7, Warrford-court, Throgmorton-street, from whom further information may be obtained.  
By order, WHITE and BORRETT, 35, Lincoln's Inn-fields.

# SUPPLY OF PURE WATER TO THE METROPOLIS AND ITS SUBURBS—PROPOSED NEW COMPANY.—No. X.

BY ALFRED BURT, ESQ.

We proceed next to the three establishments that supply with water the southern portions of the metropolis, which includes the borough of Southwark.

SOUTHWARK WATER-WORKS are situated on the banks of the river between Southwark and London-bridges. In 1834, there were no reservoirs attached to their works—consequently, they pumped into their districts water in the same state as it came from the river; but, owing to the serious complaints of the deleterious nature of their supply, they were urged to the necessity of purchasing land at Battersea to construct reservoirs and filtering beds (a description of which will be given under the head of the Second Class), at an expense of near 60,000L, which were only completed in 1841, for receiving the Thames water, with the object to allow it to settle previous to the supply of their districts.

LAMBETH WATER-WORKS are situated upon the banks of the Thames, drawing its supplies from the river near Waterloo-bridge. The supply of this company was conveyed to the houses in the same state as it came from the river; dissatisfaction at its quality occasioned serious complaints—indeed, such might be expected to occur, from the filthy and obnoxious locality from whence their supplies are drawn, and particularly liable to be rendered turbid by mud and other deleterious matters; the constant motions of barges and boats, as well as the ebbing of the tides, all combine to its impurity, and compelled the company to contemplate a plan to derive their supply from purer sources; with this view, Mr. Simpson (their engineer) was requested to suggest some scheme to be put in operation for this purpose; hence emanated the idea of expenditure in land and works for the construction of filtering reservoirs at their works at Brixton, with an attempt to restore a filthy fluid to a healthful condition. It is even promulgated by their agents, that the water supplied by this company now undergoes two processes of clarification. Thus it is logically concluded that the particles of filth are arrested in their progress to the cisterns of their tenants; this bold assertion we leave to the judgment of those who partake of this "improved" water, subject to the pollution of the drainage of a populous district.

SOUTH LONDON (OR VAUXHALL) WORKS are situated in Kennington-lane. This company supply Thames water exclusively, and have, since the year of 1821, had settling reservoirs, to which was subsequently added an apparatus for filtering the water. Amongst the recent attempts to improve their supply, may be enumerated the construction of a reservoir for the purpose of receiving the water as it flows from the Thames. From this reservoir the water percolates through a filtering bank, composed of layers of coarse and fine gravel and sand, prior to its entering into another reservoir, where it also remains for some time previous to its passing to the well of the engine. This method is inadequate to furnish water free from animalcules before it is conveyed to the cisterns of their tenants—probably, a more appropriate and striking illustration of this statement cannot be adduced than that of the water as conveyed from the company's pipes, when a few days since was placed on our breakfast table water containing an eel or leech near two inches in length, and scarcely a week passes that we are not presented with a shrimp-like skipping insect, or a small delicate worm, and the water opaque, muddy, or otherwise impure. It is a misconception, then, to suppose, that this system of cleansing partakes of the effects of a natural filtration, or that it is practical to remove the animal and vegetable substances from Thames water. The efforts to amend their supply, though of no import, necessarily occasioned vast expenditure of public money, which was made up on the faith of the rental improving, but when the objectionable qualities of their supply became known, they had to encounter the dissatisfaction expressed from their tenants, who were compelled to resort to wells for a pure supply; hence, to meet this heavy outlay, the public had to succumb to a combination, mutually agreed upon by the Lambeth, Southwark, and Vauxhall Companies, in an exaction of an impost diametrically opposed to the principles of the contract with the public.

The Vauxhall and Southwark Companies, seeing the practicability and the rapid progress of the scheme of the SOUTH METROPOLITAN PURE WATER COMPANY, and the advantages that would accrue to the public, in water being conveyed to their tenements from the pure liquid stream of the River Wand, have urged them to make application to Parliament for an Act to amalgamate their concerns; thereby to unite a capital hereafter to be raised with the vain notion they will compel some hundred thousands of inhabitants to submit to this odious compact, and partake of that filthy fluid at whatever price this unprincipled confederacy may consider equivalent to meet that expenditure, which has for its purpose the support of monopoly, and to increase their profits, and likewise to compete with a company whose object it is to supply salubrious water at an average rate of 17s. per house; thereby to break down the barriers in the monopoly of an element of Nature, so necessary to human subsistence as water. These two companies have presented also a memorial to the commissioners for inquiry into the health of towns, based on the ground that competing companies are ruinous to existing concerns, and injurious to consumers of water; the object being to promote the interests of monopoly, and influence the Government against this new undertaking, by representing it as a delusive project; but on which we shall defer our remarks until we notice the scheme of the South Metropolitan Company, when we shall prove that competition is a principle on which British enterprise is based, and the only medium that can be arrayed in juxtaposition to the overthrow of unprincipled combinations, and to obtain those rights in the supply of a cheap, pure, and salubrious water. The Parliamentary returns of 1834, show, that the portion of the town upon the north side of the River Thames, including the cities of London and Westminster, is supplied daily with a quantity of water amounting to nearly 31,000,000 gallons, and that the total number of houses receiving this supply amounts to about 160,000. Of this water, nearly one-half of which is derived from the Thames, the quantity of water for the daily supply of the inhabitants south of the metropolis appears to be under 6,000,000 gallons, and the total number of houses and manufactories receiving this supply is 60,000. The description of water furnished by the three companies is delivered in a filthy state, and of considerable impurity, for each of these establishments derive the whole of their consumption from the River Thames. The water in these districts is very unequally distributed; the average consumption in each house being apparently greatest in the district supplied by the Southwark Company, where it amounts to near 160 gallons per house—while, if we take the average of the whole supply, the daily consumption is only eighty gallons per house. With respect to the quantity of water furnished by the three companies in cases of fire, there is serious complaint of deficiency. Mr. Braidwood, the experienced superintendent of the fire brigade of London, described the difficulty of obtaining water in the districts of Southwark and Lambeth. "On the south side of the river we have most often found the deficiency when called upon to attend a fire; we generally find, when we arrive with the engines, that a supply of water is not provided. Out of 459 fires on the south side of the river, at 107 water has either been late or deficient in quantity, and have had to wait in some cases two hours." In exemplification of that evidence, an instance has recently come under public notice, in the case of the fire which broke out in the dwelling-house of Mrs. Bond, situate at Camberwell. Upwards of twenty minutes were lost before water could be obtained from the Vauxhall mains. The engines, in the meantime, were obliged to be taken to the Surrey Canal, a long distance from the seat of fire, and worked one into the other before any water could be discharged upon the conflagration. We attribute this palpable and inexcusable neglect to that combination based on a total disregard for the public welfare, and inattention to the want of proper and capacious reservoirs for pouring a head of water upon the mains when the engines are not working; so they may be charged, that the water can be thrown to the tops of the highest buildings without the aid of an engine.

We have now given a general outline of methods adopted by the various water companies to augment and improve the quality of their supply of water to the metropolis—while we acknowledge the earnestness and assiduity of the companies to provide a pure and less objectionable water, and increase their supply. We must, nevertheless, admit that, however extraordinary and costly were their efforts to improve their works, by the construction of spacious reservoirs to collect large masses of water, their plans are the most uncertain in effect, the least permanent in duration, the most costly and the most defective of any schemes yet propounded for the supply of water, which illustrates the fact, that any attempt to restore a filthy and unsound fluid to a healthful condition, by the aid of science, is a theory which renders the grievance more odious in public estimation.

[To be continued in next Morning Journal.]



## RAILWAY GAZETTE.

## PILBROW'S ATMOSPHERIC RAILWAY.

The large model railway on this system, which has for some weeks been preparing at the Adelaide Gallery, is now completed, and was on Thursday last exhibited to a select number of the nobility and others, connected with the scientific world, and interested in the success of this system. The railway is about 112 feet long, and of sufficient width to allow a carriage, capable of holding one person, to travel on its rails; at one end is a gradient of one in eight, and the atmospheric tube, which is three inches in circumference, is laid only about one-third of the length at the opposite end, terminating in a receiver connected with the air-pump, which is worked by the steam-engine at the other extremity of the apartment. Since the system was first made public, a number of alterations and improvements have been made in the mode of transferring the power from the travelling piston to the carriage, and the plan on which the present model is constructed, completely sets aside many of the objections which have been made to the system. The tube is constructed circular for the piston, with a square chamber above, along which the piston-rack passes, moving the wheels of the spindles in its progress. At regular intervals of three feet (they will be thirty feet in practice), are fixed two small perpendicular shafts, working in brass bosses in the top of the tube, and which are air-tight; on the ends of these are pinions, whose teeth are not parallel with the axis, but partake of the form of endless screws; attached to the travelling piston is a rack, the teeth of which correspond with the pinions and form an angle with the horizon of about forty-five deg., this rack is of just sufficient length to move two pair of shafts and pinions, so as always to enter one pair before leaving the last; connected with the under part of a power carriage (as the leader of a train would on this plan be called), is a rack in every respect similar to the one attached to the piston in the tube, which, being placed in connection with two pair of pinions exactly over that rack, the momentum of the latter is transferred through the shafts and pinions to the one above, and the carriage and train is thus propelled to a considerable distance beyond the end of the exhausted tube. The experiments were highly successful; the exhaustion was generally continued, until the mercury indicated a pressure of twenty-four and a half inches, or about seven pounds on the square inch, when the seat in the carriage was occupied by one of the ladies present; the valve connecting the tube with the exhausted receiver was then opened, and the carriage started off with the most admirable ease and rapidity, as stated above, receiving its last impulse when it had two-thirds of the distance to travel, and that up a gradient of one in eight; notwithstanding which, we believe, on every occasion, the buffer struck the block at the terminus. Dr. Hewlett, on being requested, kindly gave a short description of the advantages of the system, which he pointed out by the aid of large diagrams, and which, he stated, were the absence of all loss of power from leakage, in consequence of the absence of the lateral opening and continuous valve—the pipe being buried prevented this leakage, as well as all obstruction; he showed, also, that roads could be crossed on a level in the same manner, as by the common railway, and that a line on this principle could be laid down at about one-third less expense. So confident are the directors of its capabilities in ascending steep gradients, that having been applied to by the executive of a railway at Altona, to know if they would undertake to work a gradient of one in six, they immediately expressed their perfect readiness to do so, and, we understand from good authority, that the specifications have been received and estimates sent. Among the company present, we noticed the Marchioness of Westmeath, Lady Stafford, Lady Barton, Marquis of Donro, Earl Bessborough, Earl of Mornington, Ashton Smith, G. B. Bolton, and J. F. Lambart, Esqs., and many others of distinction, whose names we could not ascertain. The model will now be open to the public, and will no doubt cause much interest.

## PROGRESS OF RAILWAYS IN FRANCE.

[FROM OUR PARIS CORRESPONDENT.]

On Friday the Committee of the Chamber of Peers presented its report in favour of the laws for acceding embankments from Dieppe and Fecamp to the Rouen and Havre Railway, and from Aix to the Avignon and Marseilles Railway; and, on Monday, those laws passed the Chamber without amendment, and without discussion. The concession of the Dieppe and Fecamp lines is to be for the same period as that of the Rouen and Havre line, which expires in June, 1941—a long time to look forward to; but the company has, in return for so long a concession, to execute the lines at its own expense, without any subvention whatever. The cost of the Dieppe line is calculated to amount to 12,400,000 f. (492,000*l.*), and the Fecamp line (not yet fixed up) to less. They are expected to yield a reasonable, though not extravagant, profit. Dieppe is a town of some importance, and, when the railroad is finished, will, no doubt, obtain a large share of the traffic that takes place between London and Paris. Fecamp is also of some mercantile importance, and carries on considerable trade with Newcastle-upon-Tyne. The company to whom these two lines are conceded is independent of the Rouen and Havre Company, but, as the interest of the two concerns are in some measure identical, it is not impossible, as they are, and have solemnly promised to remain, on the most friendly terms, that a marriage may eventually take place between them. The embankment on Aix is conceded to, and must be executed by, the Avignon and Marseilles Company, for a period not exceeding forty-five years. The expense of the line is estimated at 4,300,000 f. for a single line of rails, and the corporation of Aix gives a million francs towards that sum. These embankments are conceded, you will perceive at once, to companies, contrary to the principle so solemnly and so faithfully laid down by the Chamber of Deputies, three years ago, of letting the Government form the lines, and then put them up for adjudication by public competition—a system which is not advantageous to the state, and which, by encouraging Stock Exchange gambling, causes the ruin of hundreds.

On Friday, the Chamber commenced the discussion on the Paris and Lyons Railway Bill. The Comte Dain, in a long speech, recommended the postponement of the bill, on the ground that it was dangerous to throw so many railway schemes upon the market all at once; but the Chamber paid little respect to the entreaty of the Comte. In fact, it would have been madness if it had; for France is so disgracefully behindhand in railway communication that, instead of postponement, she ought to work away day and night. Besides, as the Minister of Public Works represented, a postponement would have had the effect of driving English capitalists away from France; for, after having waited as they have, it is not likely they would have consented to allow their capital to remain idle for another year, when they can employ it with so much advantage in Belgium, in Germany, in Italy, and even in Spain. After a lengthy discussion, in which a multitude of points were touched upon, the law was passed without amendment. It authorises the Minister of Public Works to put up to public adjudication the Paris and Lyons line, for a period not exceeding forty-nine years, and the Lyons to Avignon, with an embankment on Grenoble, for not more than fifty years. The former would be of immense importance, if it only united Paris with the greatest mercantile city of the kingdom, Lyons; but it goes through rich, productive, and populous countries, and serves many important towns, among which are Melun, Montargis, Sens, Joigny, Tonnerre, Ancy-le-Franc, Montbard, Dijon, Beaune, Chalon-sur-Saône, Macon; and the line to Avignon is also of great importance. From Paris to Lyons the distance is 516 kilometres; from Lyons to Avignon, 236; the embankment on Grenoble, 96—total, 848. The works are scarcely begun on any part of the line, except between Dijon and Chalon, where they are far advanced. The great tunnel at Blaisy is being pushed forward actively, but it has not yet made great progress. The whole line, it is expected, cannot be opened for six, or, at the least, five, years, though parts of it may be brought into use long before.

The committee of the Chamber of Peers, appointed to examine the *projet de loi* on the Tours to Nantes, and Paris to Strasbourg Railways, presented its report to the Chamber on Monday. It was said, that there was a division in the committee, four members advising the postponement of the law to next session, four opposing it, and the president being neutral; but it appears from the report itself, that this statement was entirely untrue, for the report strongly recommends that the law shall be passed in the course of the present session, and it proposes no amendment whatever. The duration of the concession on the Tours to Nantes line is fixed, at the outside, at thirty-five years, which will be lessened by the competition, when the adjudication takes place. The works throughout the line are proceeding with great activity, and it is expected, says the committee, that the line may be completed in about three years time. The *Journal des Chemins de Fer*, however, asserts that the line can be ready for circulation towards the end of the next summer; but this, I think, is a mistake.

The line is 195 kilometres in length, and it serves the large towns of Samur, Angers, Ingrandes, and Ancenis. I will not weary you by going into details of figures, for, to make them comprehensible, they would occupy considerable space; but, I may state, that, from the calculations that have been made, the company that may possess the adjudication, after complying with all the conditions imposed upon it, will receive an interest of 7½ per cent., which will allow 6 per cent. to be divided among the shareholders, and 1½ per cent. for the *amortissement*. With respect to the line to Strasbourg—from Paris to Strasbourg the distance is 499 kil.; there are embankments on Rheims and on Metz of 87 kil., and a further embankment from Metz to Saarbrück of 75 kil.—making the total for the whole line, 661 kil. The great line, from Paris to Strasbourg, will be executed by the Government, the company laying down the rails, and finding the material for working, but the embankments will have to be executed entirely at the expense of the company. According to the committee of the Chamber of Peers, the outlay of the company will be 125,000,000 f.; the receipts are estimated at 16,000,000 f., and the profit 7 per cent., of which 6 would be for the shareholders, 1 for the *amortissement*. The line and embankments would be conceded for forty-five years. The works are scarcely begun on any part of the line, and, it is considered, they cannot possibly be completed in less than four or five years. The Paris end will probably be finished first, measures having been already taken for having it commenced without delay. The *projet de loi*, relative to these railways, is the only railway project upon the orders of the Chamber of Peers. It was set down for discussion to-day; but as the Budget precedes it, it is not likely that it can be taken into consideration before Friday or Saturday.

I have heard it said, that the Minister of Public Works has promised that the adjudication of the Northern Railroad shall take place on the 5th Sept., but no official announcement to that effect has appeared. I do not see what objection there can be to the adjudication taking place a month earlier. All the companies, I believe, or nearly so, that intend to compete for it, have closed their subscription lists, and Rosamel's company (and, if I mistake not, another also), have received the money subscribed in England, and are prepared to lodge the amount required as a guarantee (15,000,000 f., or 600,000*l.*), at a day's notice. Considering the intense anxiety that exists, as to the adjudication of this railway, and the large amount of money it keeps locked up, I think the Minister of Public Works is bound to adjudicate it with the least possible delay. It is but just to him to say, as far as I can judge, from the announcements in the *Moniteur*, that he is hastening the completion of the line as much as lies in his power; but, as, do what he will, the adjudication must take place before the line be entirely finished, what does it matter if it be a little more or a little less advanced? True, the company will have to disburse an immense sum, immediately on the adjudication taking place, and it will lose the interest for a certain time on that sum; but, then, it will be able to hasten the opening of the line, so that what it is out of pocket one way it gains the other. Besides, the interest is not much to the shareholders, for it is swallowed up in expenses; and there is one banker, who coolly proposes to put all the interest in his own pocket. On every account, then, any delay, even a single day's, in the adjudication, that is not absolutely unavoidable, is deeply to be deplored, for the sake of the companies, and will bring on the Minister strong censure.—Paris, July 16.

## RAILROADS IN SPAIN.

SIR.—Truth, whether it be in or out of fashion, is the measure of knowledge, and the business of the understanding; whatsoever is besides that, however authorised by consent, or recommended by rarity, is nothing but ignorance, or something worse.

I am, perhaps, by giving publicity to the following, pursuing a thankless and bootless duty, in again begging my countrymen to "mark, learn, and inwardly digest," the chances of there being anything like a probable return or security for the capital which may be called for to construct a railroad from Aviles to Madrid; be that as it may, I propose to the consideration of the shareholders the following inquiries:—

1. Whether Aviles be a good port or not; if it be, then, what accommodations does it afford—and, if it does not afford the requisite accommodations, what will be the cost of constructing them?
2. What are the difficulties which will be met with in taking the road across the ridge of mountains which divide the Asturias from Castilla, and what rivers the road will meet with in its course, and what would be the additional costs of such a line as compared with other railroads?
3. As to the certainty of the Spanish Government permitting the importation of rails, steam-engines, and the multitude of other things that may be required?
4. What security can be offered that malicious persons will not be tempted by political, interested, or other bad intentions, from destroying a portion thereof, and thereby render it awfully dangerous?
5. Whether the shareholders have obtained, from indisputable sources, the revenues which may be gotten from passengers and transit thereon?
6. What will be the time and cost of steamers plying across the Bay of Biscay, particularly, say, from October to the end of March?
7. What would be the difference to passengers in time, comfort, and expense, between the following routes—viz., from London, by steam, down the Thames, the Channel, and across the Bay of Biscay to Aviles, and from thence to Madrid; or by railroad from London to the coast, across the Channel by steam, and then by railroad to Bordeaux, or by other railroads that may pass through France to or near the Pyrenees, and from thence to Madrid by diligence, or by a railroad which may ultimately pass from Victoria or other places to Madrid?
8. As to the facilities which will be offered by the projected Central line, which will pass from Lisbon to Madrid?

I do not know what has lately appeared in your or other English papers, as connected with railroad speculations—consequently, I may be suggesting considerations which might have been already thoroughly gone into by the English capitalists; still, I am confident, that no *bona fide* shareholders will disregard the foregoing queries, as they are intended solely for the purpose of inducing them to well consider the prudence of a further outlay, and thereby, perhaps, recover a portion of their paid-up capital.—"Repent what is past, avoid what is to come."

Oviedo, July 3.

## A RESIDENT IN THE ASTURIAS.

P.S.—I cannot help thinking that a line of railroad through France will ultimately form the great artery of communication to and from Spain, and, consequently, be the most expeditious and economic route for English passengers. I am informed that there are persons making calculations as to transit, and, therefore, the foreign speculator will, I believe, be enabled to gain the information which he suggested in his communication to you. If these facts are got at, and well laid before the public, the little wasps will no longer annoy him, but otherwise he will be sure to have a "hornet's nest" about him.

LIVERPOOL, MANCHESTER, AND NEWCASTLE-UPON-TYNE JUNCTION RAILWAY.—A number of highly influential landowners and merchants connected with the northern counties, and the commerce of the great towns of Liverpool, Manchester, and the coal districts of Durham and Northumberland, are the promoters of this company, the object being to form a direct line of communication from the several ports on the north-east coast of England, with Liverpool, Manchester, Blackburn, Bolton, Clitheroe, and the other large towns of Lancashire and Yorkshire. The population of the districts which will thus be brought into communication may be safely taken at 2,240,000, and the great and increasing trade at the ports of Shields, Middlesbrough, Tynemouth, Sunderland, Seaham Harbour, Hartlepool, Stockton-on-Tees, and others, fully warrants the construction of such a line of railway, which will bring Newcastle-upon-Tyne forty miles nearer to Liverpool than any existing railway route. Coals, which are the production of a large extent of country at both its termini, will, by its means, be transported to all the intermediate towns, and, by reducing their price in the West Riding of Yorkshire full 40 per cent., secure a large traffic in that article alone. The several mineral products of the districts to be traversed, such as slate, lead, ironstone, freestone, and lime—form important elements of trade—and with cattle, and the great agricultural produce of Durham and Yorkshire, supply a goods' traffic, which alone might fairly be anticipated to make a profitable return; but, when to this is added the large passenger traffic which must ensue to a line traversing the densely-populated and wealthy districts through which this line will run, it is clear that a large return will be made for the capital expended. The line will commence at Preston, and proceed by the Valley of the Ribble to Clitheroe, where it meets the proposed extension of the Blackburn and Bolton line, from thence it proceeds direct to Settle and Hawes, and by the Valleys of the Wenaleydale and Ure to the towns of Askrigg and Richmond, forming a junction near the latter place with the Great North of England and the Newcastle and Darlington Railways. Its entire length will be about seventy-five miles, no difficulties of any magnitude exist in its construction, and it is estimated that the capital, which is fixed at 2,000,000*l.*, will be more than sufficient for the entire and permanent completion of every portion of the works. It may also be added, as another important feature, that the proposed line has the full support of Mr. G. Hudson, as connected with the great northern lines.

LONDON AND BIRMINGHAM EXTENSION RAILWAY.—This line of railway, which will be little over thirty miles in extent, is intended to bring into more direct communication the extensive and populous towns of Northampton, Daventry, Leamington, and Warwick; the two latter towns, containing nearly 24,000 inhabitants, are at present approached from Northampton and the east only by the circuitous route of the London and Birmingham line to Coventry, and from thence by a branch of seven miles to Warwick. This line will cause a saving in time and distance in this particular of at least one-half; it will also prove the most direct line from London to Warwick, through Daventry and Leamington—the latter favourite watering-places being visited by thousands during the summer months, who have no fixed residence there, will alone draw a large passenger traffic on to this railway. There are at least 63,000 persons residing within the localities, which this short railway will accommodate—a number which cannot fail to bring a large traffic to the line, and its peculiar situation connecting it with the large central lines, with the east coast, and with Wales, a large goods' traffic in coal, iron, timber, mineral produce, &c., may safely be calculated upon. The country through which this line will run, is peculiarly level; it will be constructed at a proportionately low cost, and, forming, as it will, an important link in the grand chain of railways from east to west, and connecting them with the midland counties, a fair return will, doubtless, be made for the amount invested; the capital for carrying out this project is proposed to be 500,000*l.*, in 20,000 shares.

EAST AND WEST OF ENGLAND JUNCTION RAILWAY.—The prospectus of this proposed railway, which we slightly noticed in a former Number, is now before the public; the object of the promoters being, to complete the communication across the island from the Bristol Channel to the North Sea. To effect this desirable end, it will not be necessary to form a new line at an enormous cost; but, by taking advantage of the lines already in operation, and those which are proposed to be executed, a thorough and complete communication will be effected by a new line of less than 100 miles in length—forming the shortest and most direct route for all the northern counties of Europe, and the eastern coast of England to the Bristol Channel, South Wales, and Ireland. The great risk of a sea voyage round the channels, would induce the proprietors of the great works in South Wales to send their merchandise for exportation to the north by this line, and its small cost of construction will enable them to be carried at a much lower rate. It will be seen, on reference to the map, that its route lies through a populous and fertile country in the counties of Gloucester and Oxfordshire, and at present quite unprovided with railway accommodation; commencing at Cheltenham, it will proceed by Chipping Norton, Stow on the Wold, to Banbury, where it will join the proposed Oxford and Rugby line, should it be carried into effect, and from thence to Blisworth, uniting at that place with the Northampton and Peterborough branch. A large portion of the agricultural produce of the east, midland, and western counties, must find its way along this line, as well as general produce from Ireland, coals and minerals from Wales and the Forest of Dean, cloth goods, the staple produce of Gloucestershire, and a large traffic in passengers must ensue from all parts of the kingdom. The capital proposed is 800,000*l.*, and from the present known increasing traffic at each of its termini, there is every reason to believe that the shareholders will receive a very handsome return for the capital laid out.

PROSSER'S GUIDE WHEELS.—We are pleased to see that the *Journal des Chemins de Fer*, and other French journals, have given a very long description of this clever invention, and paid Mr. Prosser the eulogium he justly deserves, at the same time recommending its adoption on the lines now forming throughout France.

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W. S. Fitzwilliam, Esq. Old Broad-street, director of the Essex and Suffolk Railway  
(With power to add to their number.)

## COMMITTEE OF MANAGEMENT.

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W. P. Andrew, Esq.  
James B. Graham, Esq.  
(With power to add to their number.)

## TRUSTEE AT CALCUTTA—Dwarkanath Tagore.

BANKERS IN LONDON—Messrs. Herries, Pagher, and Co., St. James's-street; Messrs. Smith, Payne, and Smiths, Lombard-street.

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Manchester.....Messrs. Jones, Lloyd, and Co.  
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Sheffield.....The Sheffield Banking Company  
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Dublin.....Messrs. Latouche and Co.

## BANKERS IN CALCUTTA—The Union Bank.

BANKERS IN BOMBAY—The Bank of Western India.  
ENGINEERS—Charles Vignoles, Esq., F.R.S., M.R.I.A.  
STANDING COUNSEL—A. E. Cockburn, Esq., Q.C.; Edwin James, Esq.  
SOLICITORS—W. B. James, Esq., 5, Basinghall-street.  
AGENTS AT CALCUTTA—Chit, D. Tagore, and Co.

The object of this company is to construct a line of railway connecting Calcutta westward with the River Ganges at Patna, passing along the left bank of the Hooghly, by Dumduin, through Barrackpore, the country residence of the Governor-General, and a large military cantonment, to Chogda, at or near where it is intended to cross the river, and will then continue its course through the highly-cultivated provinces of Bancoora, Beerboom, Ramghur, Monghyr, and Behar, to Patna, terminating at the chief town of that important district, with an extension from the main line commencing at Chogda, on the left bank of the Hooghly, joining the Ganges at or near Sootee; this extension, a short and practicable line, approved of by all parties acquainted with that part of the country, is in accordance with the recommendation of the Honourable East India Company upon the subject of railways in India.

The length of the main line is about 320 miles, and the extension to Sootee about 115 miles.

The committee feel great pleasure in announcing to the public, that Dwarkanath Tagore has consented to act as trustee for this company in India; and has addressed his firm at Calcutta, requesting they would act as agents there. Applications for shares to be made to the secretary, at the offices of the company, 147, Leadenhall-street, and to the undersigned shareholders:—London: Messrs. Peppercorne and Co., 2, Old Broad-street; Hill, Fawcett, and Hill, Threadneedle-street; and J. W. Scott, Esq., 3, Bartholomew-lane—Birmingham: W. R. Collis—Leeds: Messrs. John Young and Co.—York: Messrs. Grayston and Earle—Edinburgh: Messrs. Robertson and Co.; and Messrs. McCallum and Co.—Glasgow: Messrs. Tassie and Co.—Dublin: Messrs. Bruce and Symes—Liverpool: Messrs. Ridsdale and Chauncey, Mr. James Pratt, and Mr. J. O. Binger—Derby: Mr. T. Eyre and Mr. J. Cull—Hull: Messrs. Collinson and Flint—Manchester: Messrs. Cardwell and Sons, and Mr. J. Clegg—Bristol: Mr. Luke Arnold—Exeter: Beaumont and Co.—where prospectuses and forms of application may be had.